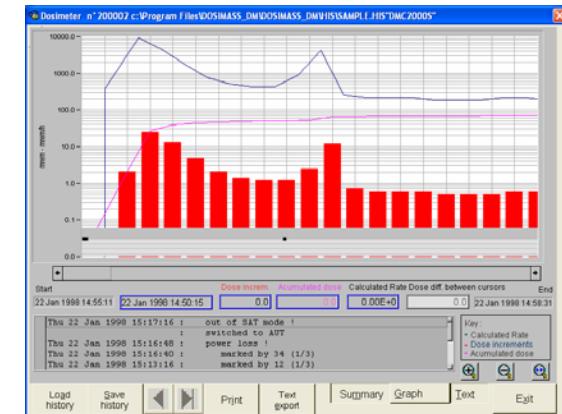
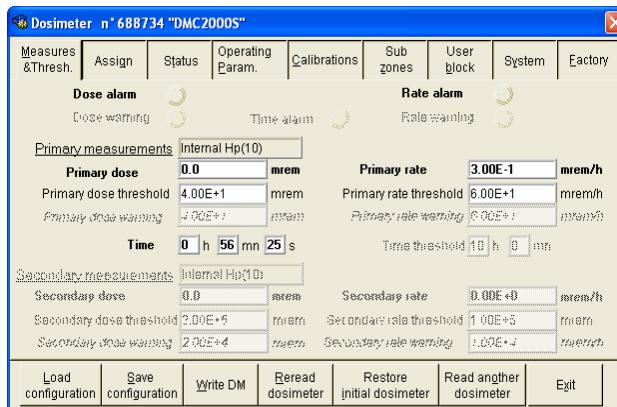


MGP Instruments Learning Center Training Module

DOSIMASS Configuration Software Fundamentals



About this document

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Modification to the information presented in this document may result in inaccurate operation of associated hardware and software.

Introduction

- This session is designed to provide the attendee a basic overview of the DOSIMASS configuration software.
- This session is prepared for individuals who are responsible for maintenance and oversight of electronic dosimeter use.
- This session does not provide guidance in repair, calibration or advanced use of configuration software. However, it provides the tools for the attendee to be knowledgeable in the basic dosimeter operation, maintenance, and troubleshooting techniques.

DOSIMASS Overview

DOSIMASS: Dosimeter Maintenance And Set-up Software

DOSIMASS is a program designed specifically for configuration for the MGP Instruments DMC-2000 Electronic Dosimeter. **DOSIMASS** can also be used for the DMC-90 & DMC-100 model dosimeters, however, with limited functionality. The **DOSIMASS** program can be used with the following LDM Family of Dosimeter Readers:

- LDM-91 & LDM-101 Infrared readers
- LDM-2000, LDM-210, 220 & 230 Hands-Free readers

DOSIMASS provides individual and multiple dosimeter configuration capability, including functions such as:

- Readout, display and modification of the actual dosimeter parameters;
- Read and archive of dosimeter parameters
- Simplified Controlled Area entrance/exit functions
- Troubleshooting Diagnostics and Dosimeter Repair, and,
- Readout of Events Histories.

This section will provide a detailed review of the **DOSIMASS** software program.



DOSIMASS Set-up

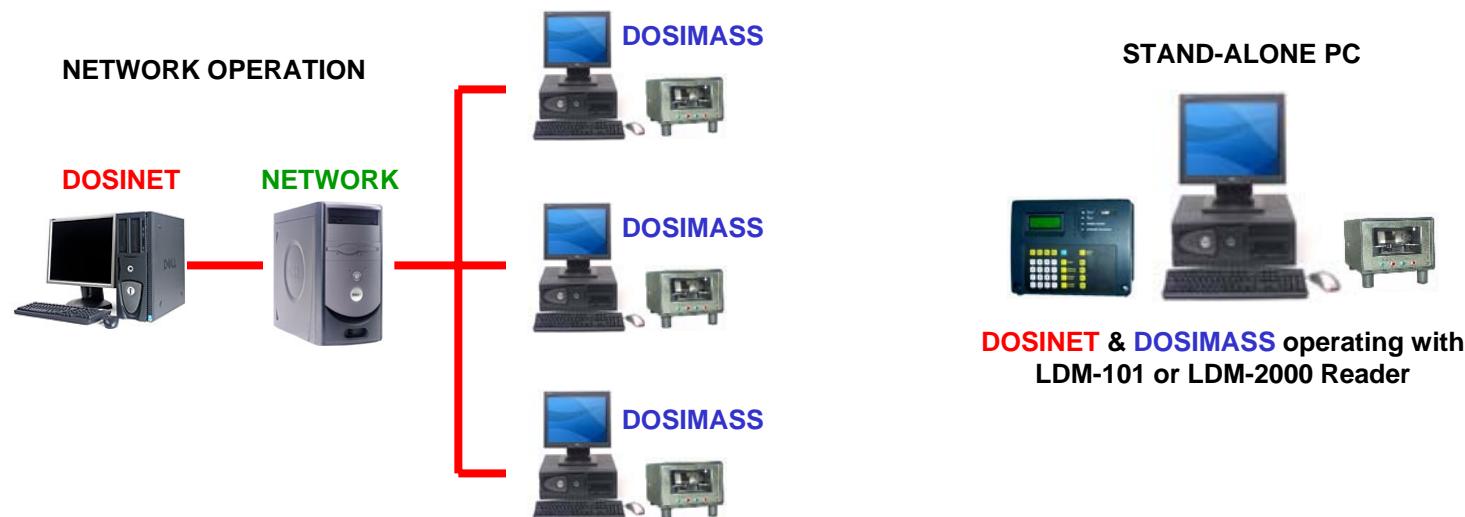
DOSIMASS & DOSINET

The **DOSIMASS** software contains two (2) program components:



DOSINET is a program which serves as a communication interface for **DOSIMASS**. **DOSINET** uses TCP/IP and is designed to allow **DOSIMASS** to communicate across a local area network (LAN) and with variety of other MGP Instruments software programs and components.

DOSINET must be started (prior to **DOSIMASS**) if used with the **LDM-101 Infrared** or **LDM-2000 Hands-Free** readers.



DOSIMASS Set-up – cont.

DOSIMASS & DOSINET – cont.

The **DOSINET** program is not used when LDM-210 or LDM-220/230 Readers are used. These new readers have been designed with the **DOSINET** communication protocol embedded into the firmware of each reader.

The **DOSIMASS** program is used to configure the communication parameters of each reader.



DOSIMASS Installation

Installing DOSIMASS

From the CD, double-click the **DOSIMASS_L.exe** icon.

A self-extracting utility will prepare the **DOSIMASS** installation files.



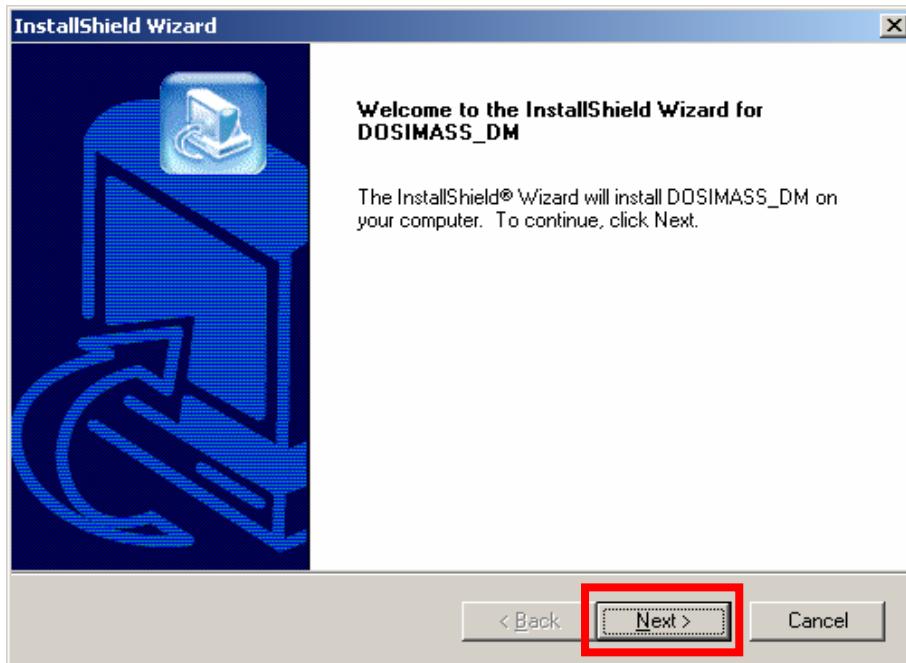
The **Choose Setup Language** window appears.

Select English
Click OK



DOSIMASS Installation

Installing DOSIMASS – cont.

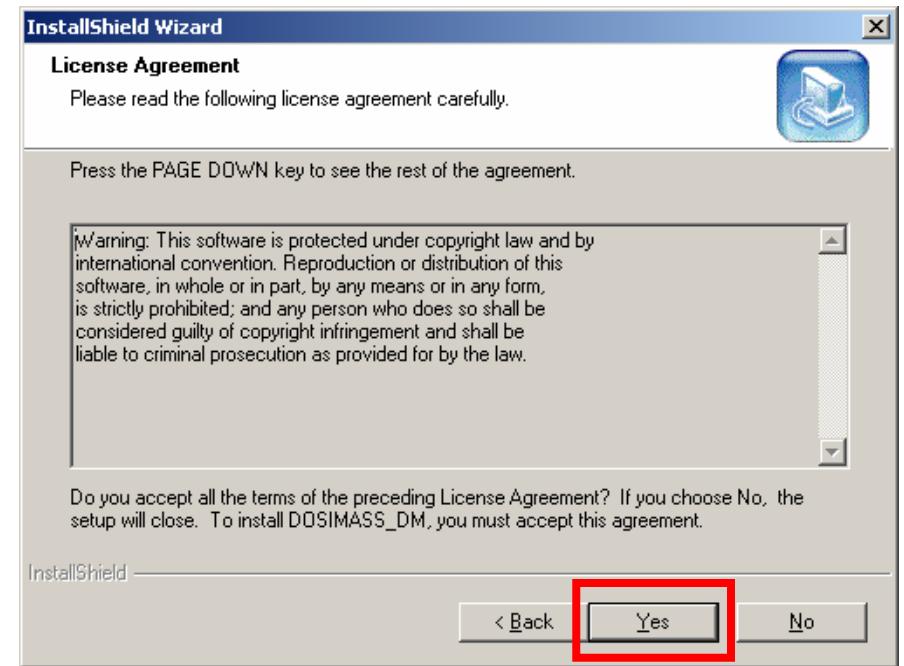


The **InstallShield Wizard** starts the installation process...

Click **Next**

The **License Agreement** is displayed.

Click **Yes**



DOSIMASS Installation

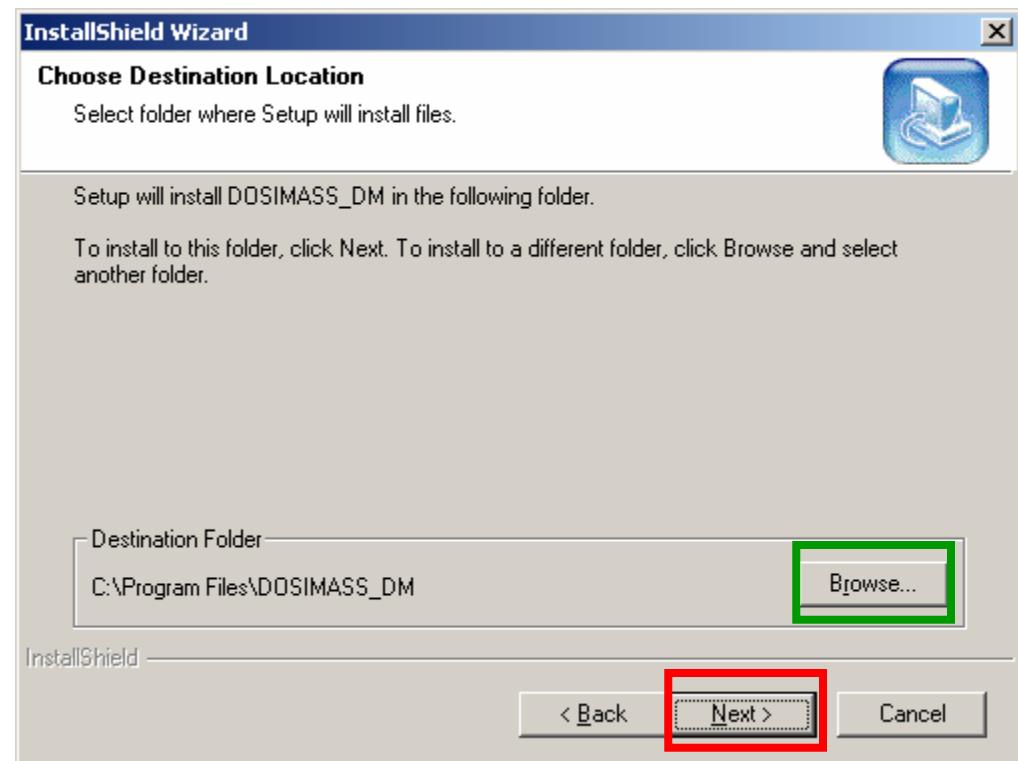
Installing DOSIMASS – cont.

DOSIMASS will be installed to a default directory, typically:

C:\Program Files\ DOSIMASS_DM

If using another installation location, click the **Browse** button to locate a specific installation drive or directory.

If the default directory is suitable, click the **Next** button



DOSIMASS Installation

Installing DOSIMASS – cont.

The **Customer Information** window appears, providing a point during the installation to register **DOSIMASS**.

Using the Registration Key provided by MGPI, enter the data in the fields as depicted below

<Dosimass_DM>

User's License

User Name

bsmith

Company Name

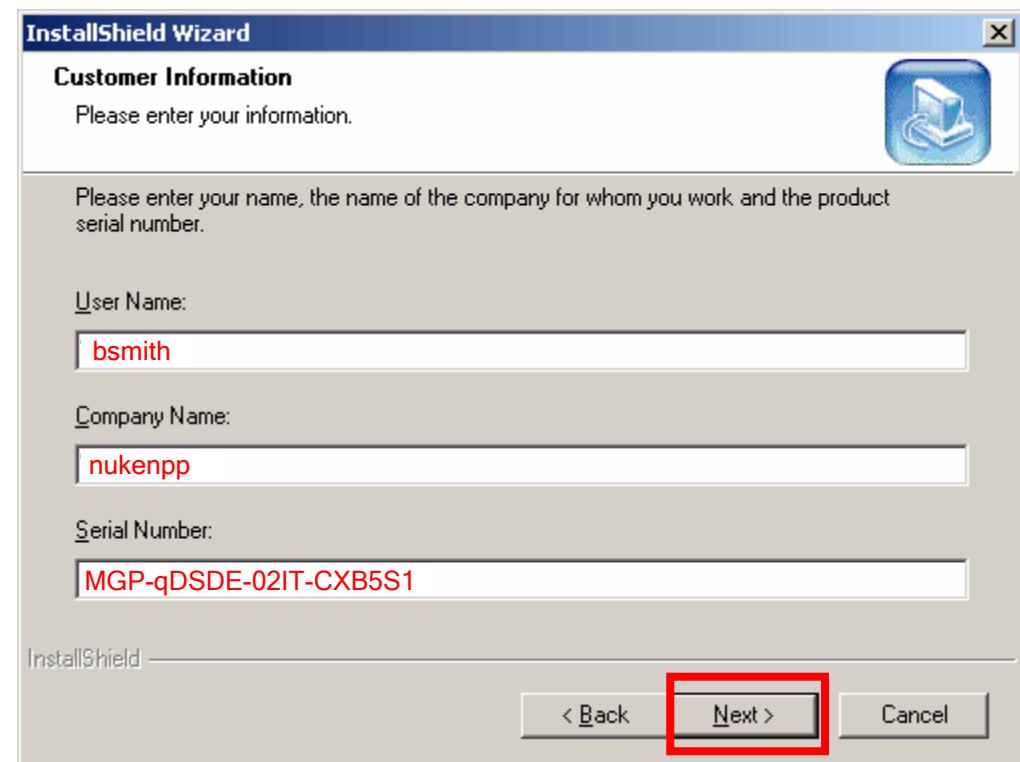
nukenpp

Option : 2 (Version L: ATTENTION, This version of
Dosimass is not German PTB approved !!)

Registration Key :

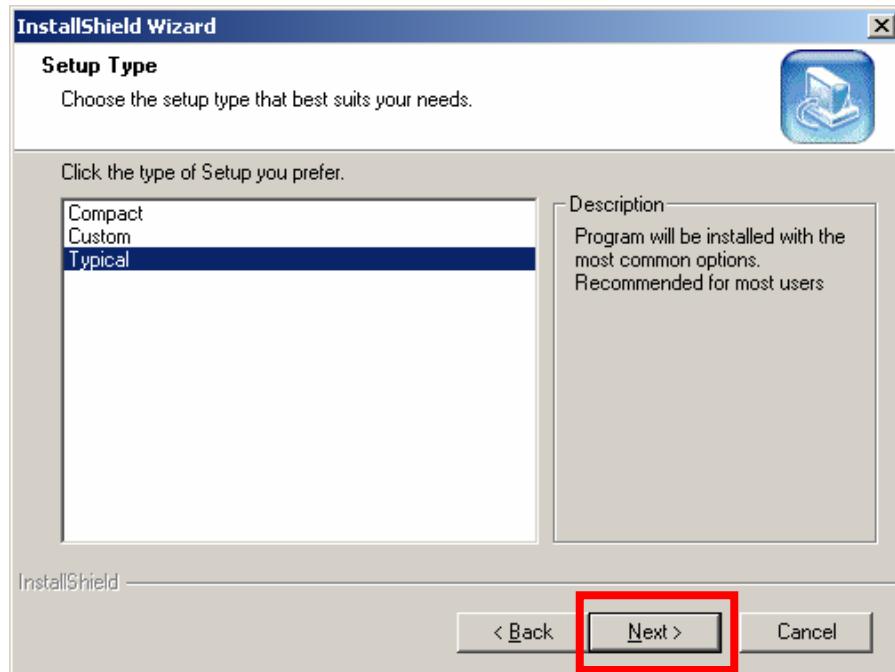
MGP-qDSDE-02IT-CXB5S1

When completed, click the **Next** button



DOSIMASS Installation

Installing DOSIMASS – cont.



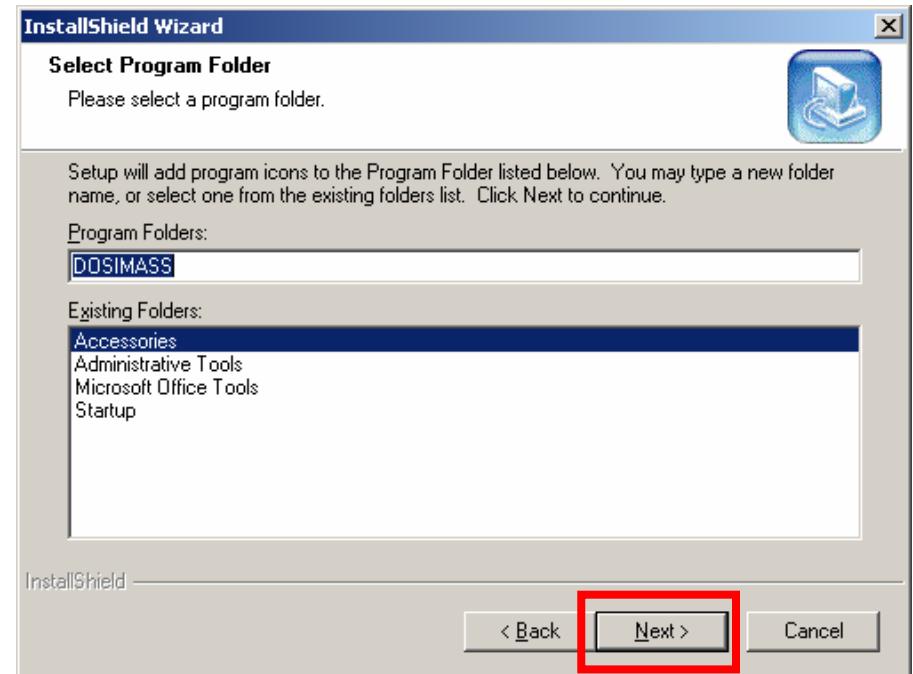
In the **Setup Type** window,
select Typical.

Click **Next**



The **Select Program Folder** permits selection of a folder to add program icons. DOSIMASS is the default program (on the windows desktop)

Click **Next**



DOSIMASS Installation

Installing DOSIMASS – cont.

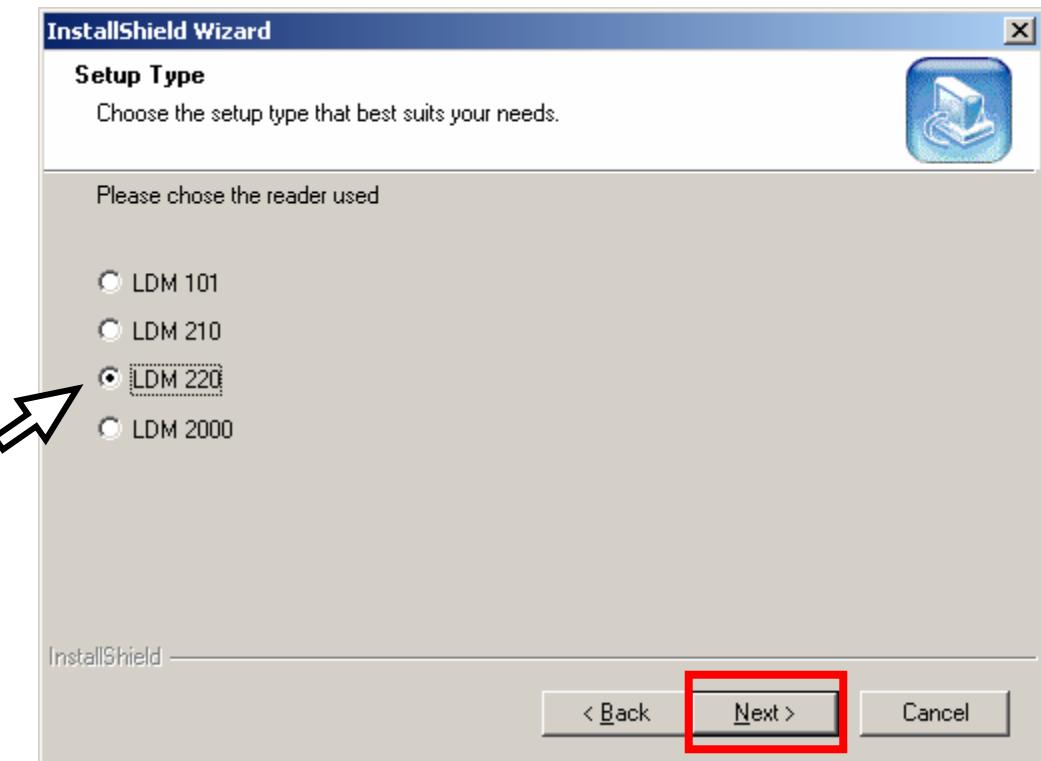
The **Select Type** window permits selection of the reader. Depending upon the type of reader used, **DOSIMASS** will be pre-configured for communication and operation.

For example...

Select the **LDM-220** Reader

(or select the reader to be used)

Click **Next**



DOSIMASS Installation

Installing DOSIMASS – cont.

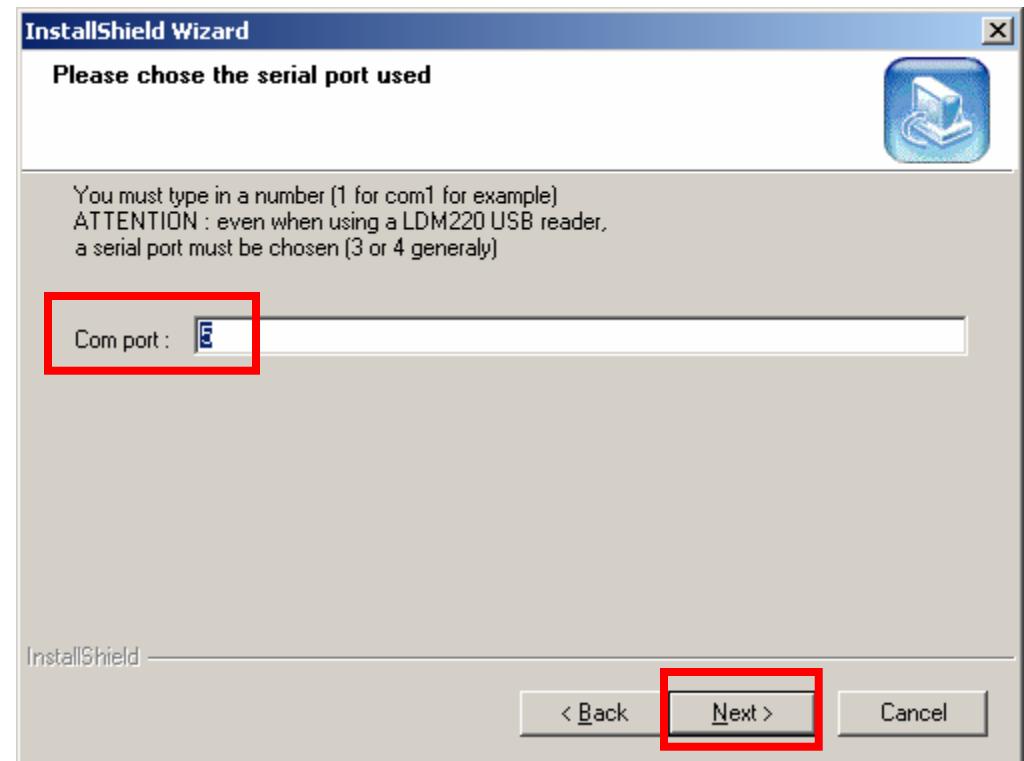
The **Serial Port** selection window provides a serial (COM) port assignment for the LDM-220.

Use the default value provided (5)

Refer to the section:

DOSIMASS: Using the LDM-220 Reader
to identify the Com port being used by the LDM-220.

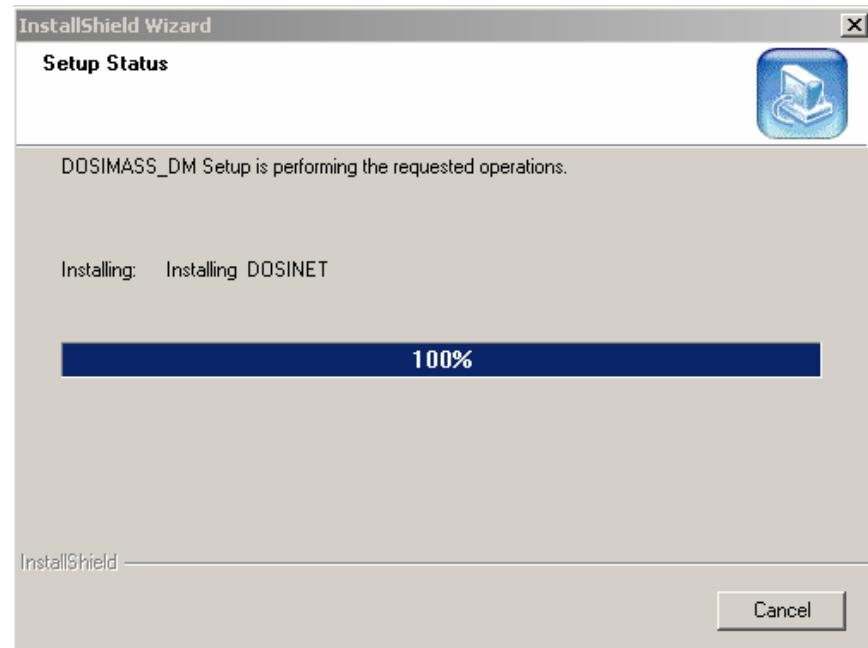
Click **Next**



DOSIMASS Installation

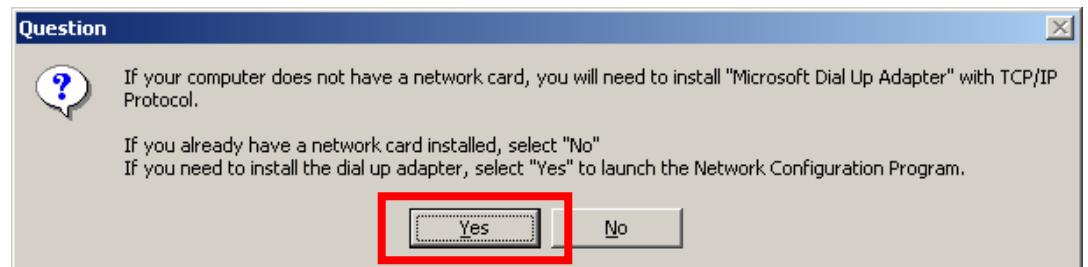
Installing DOSIMASS – cont.

DOSIMASS will continue installation with a status window and progress bar.



Prior to completion, a **Question** window appears, prompting the user to acknowledge the presence of a Network Card.

Click **No** (Network Card is installed)



DOSIMASS Installation

Installing DOSIMASS – cont.

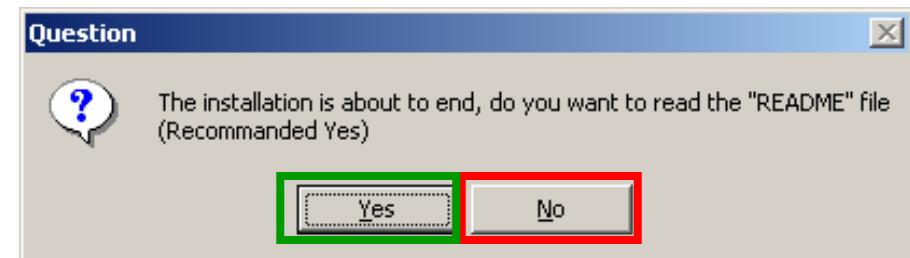
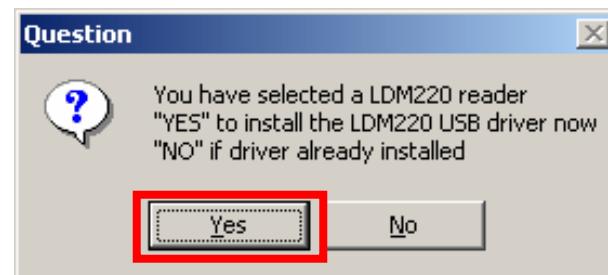
DOSIMASS then asks to install the driver for the LDM-220 reader.

Click **YES** (if first time installation for an LDM-220 on PC).

As installation finishes, the user can view a "README" file.

Click **Yes** or **No**

(Yes will open a file to view DOSIMASS specific information; No completes the installation.

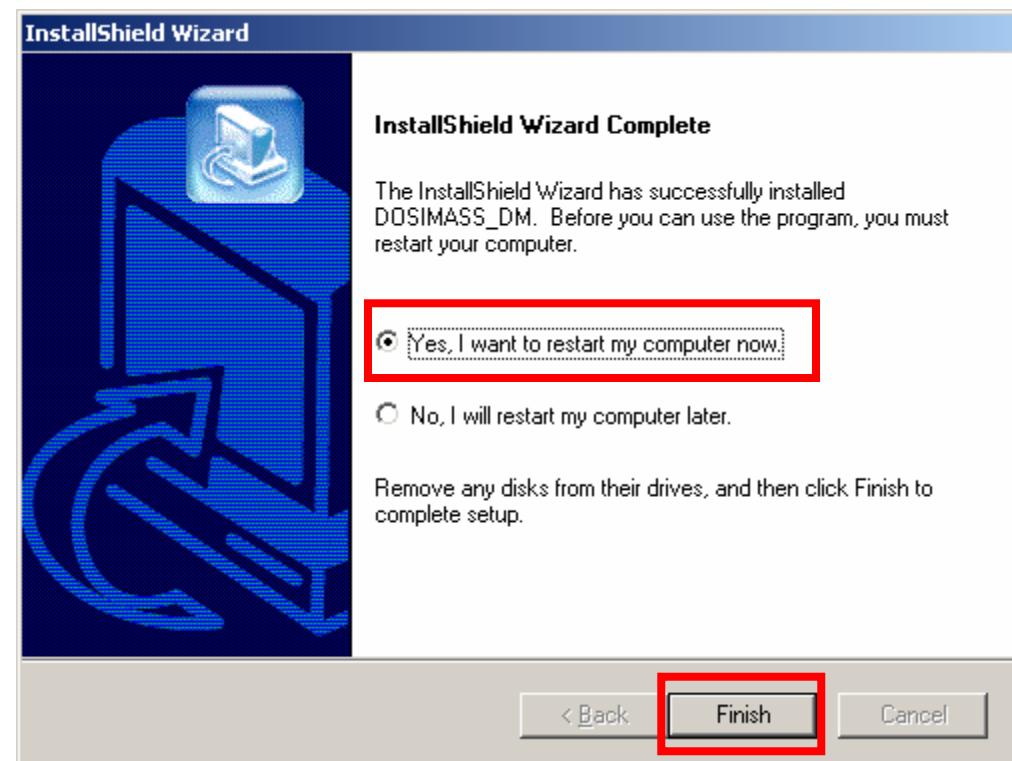


DOSIMASS Installation

Installing DOSIMASS – cont.

DOSIMASS installation is complete and prompts the user to restart the computer (to register the installation with the computer system files and registry).

Click **Yes**



Click **Finish**

DOSIMASS Set-up – cont.

DOSIMASS: Using LDM-210 Serial Reader



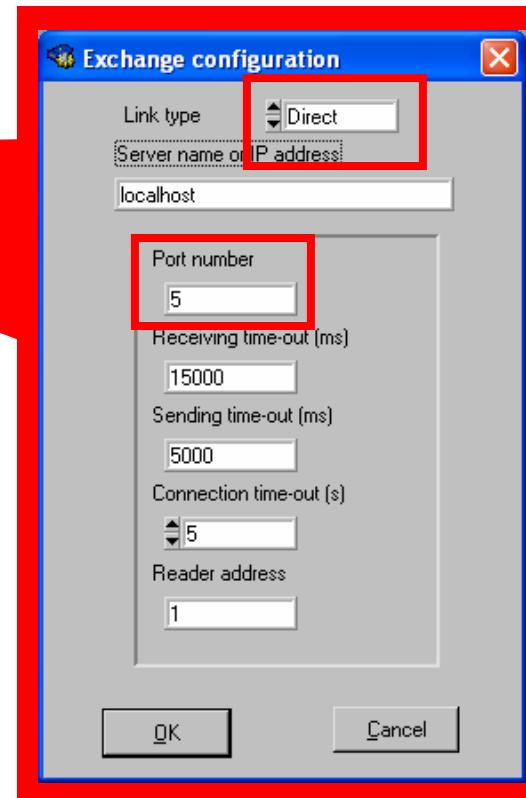
During installation of the **DOSIMASS** software, the user is prompted to select the type of reader to be used.

Following installation, and after the reader has been connected to the PC, the Communication Port must be selected or verified to ensure connectivity.

When using the **LDM-210 Serial Reader**, verify the following:

- Link Type: **DIRECT**
- Port Number: usually **1** or **2**
- Click **OK**

The **LDM-210 Serial Reader** is now ready for use.



NOTE: The reader SHOULD NOT be connected to the computer during installation

DOSIMASS Set-up – cont.

DOSIMASS: Using LDM-220 USB Reader

Similar to the LDM-210 Serial Reader, the **LDM-220 USB Reader** must be configured after connected to the PC.

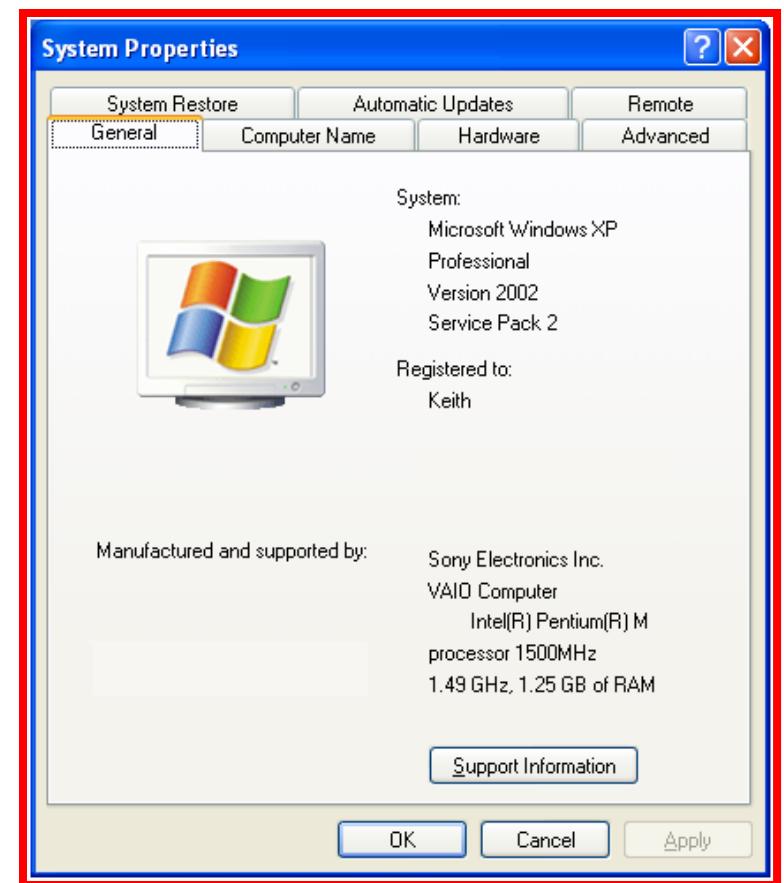
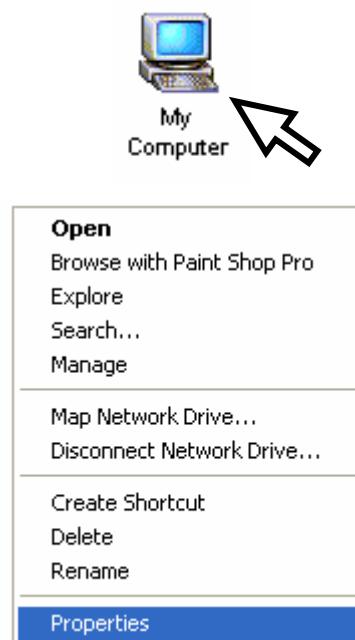
Prior to configuration of the LDM-220 in the Exchange Parameter feature of **DOSIMASS**, the User must determine which Communication Port has been assigned by the computer.

To do this...

Right Mouse Click on the **My Computer** Icon on the Windows Desktop.

Select **Properties**

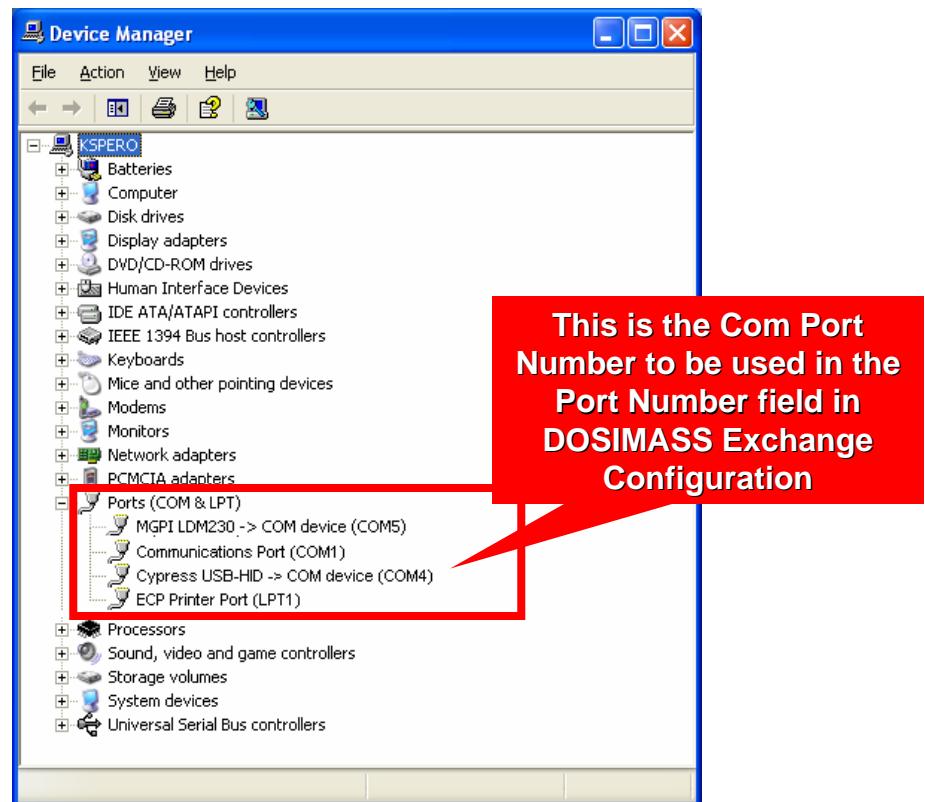
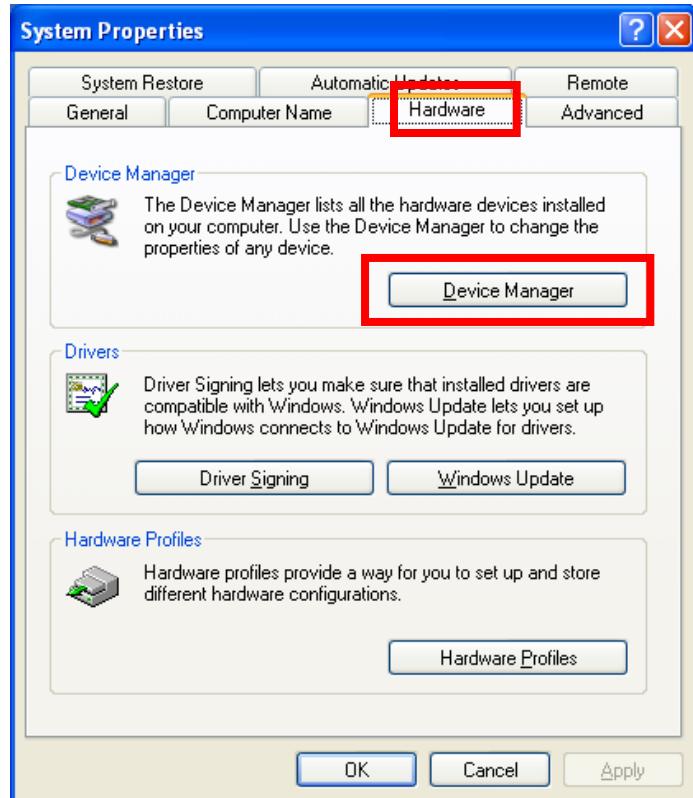
The **System Properties** window opens...



DOSIMASS Set-up – cont.

DOSIMASS: Using LDM-220 USB Reader – cont.

Click the **Hardware** Tab, then **Device Manager**. The Device Manager will display a list of hardware with associated configurations and assignments



Click on **Ports** (Com & LPT) to expand the selection. The LDM-220 USB Reader is identified as **Cypress USB-HD** with an assigned port number.

If the Cypress USB-HD driver is not identified....

DOSIMASS Set-up – cont.

Manual Cypress USB-HD Driver Installation

Locate the **HidComInst.exe** file in the DOSIMASS_DM installation directory:



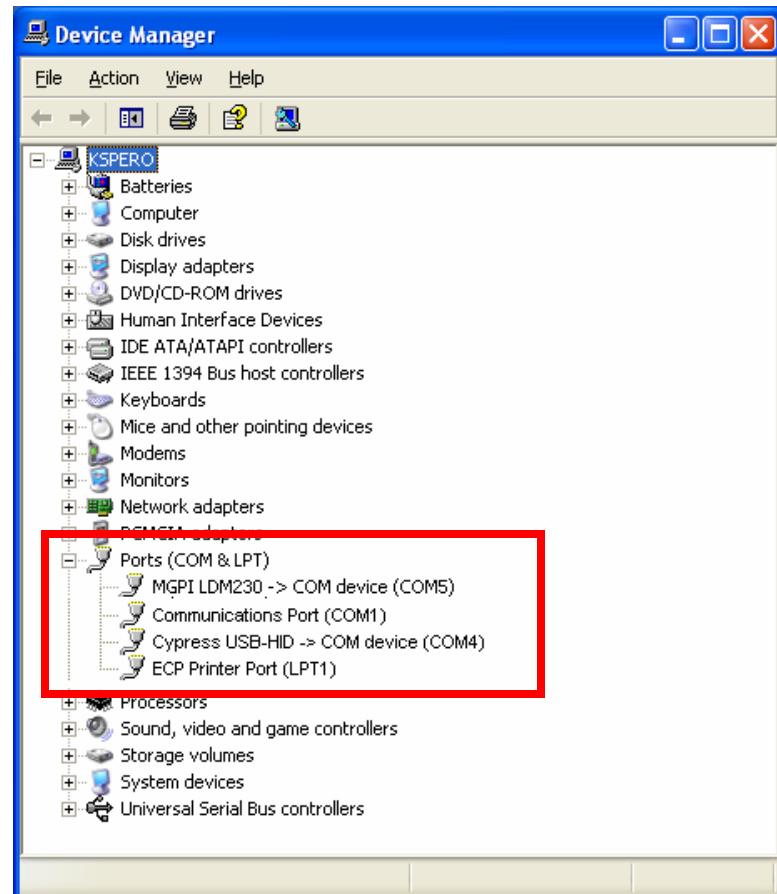
C:\Program Files\Dosimass_DM

Double-click to initiate installation of the driver.

After a few moments, the driver will be installed.

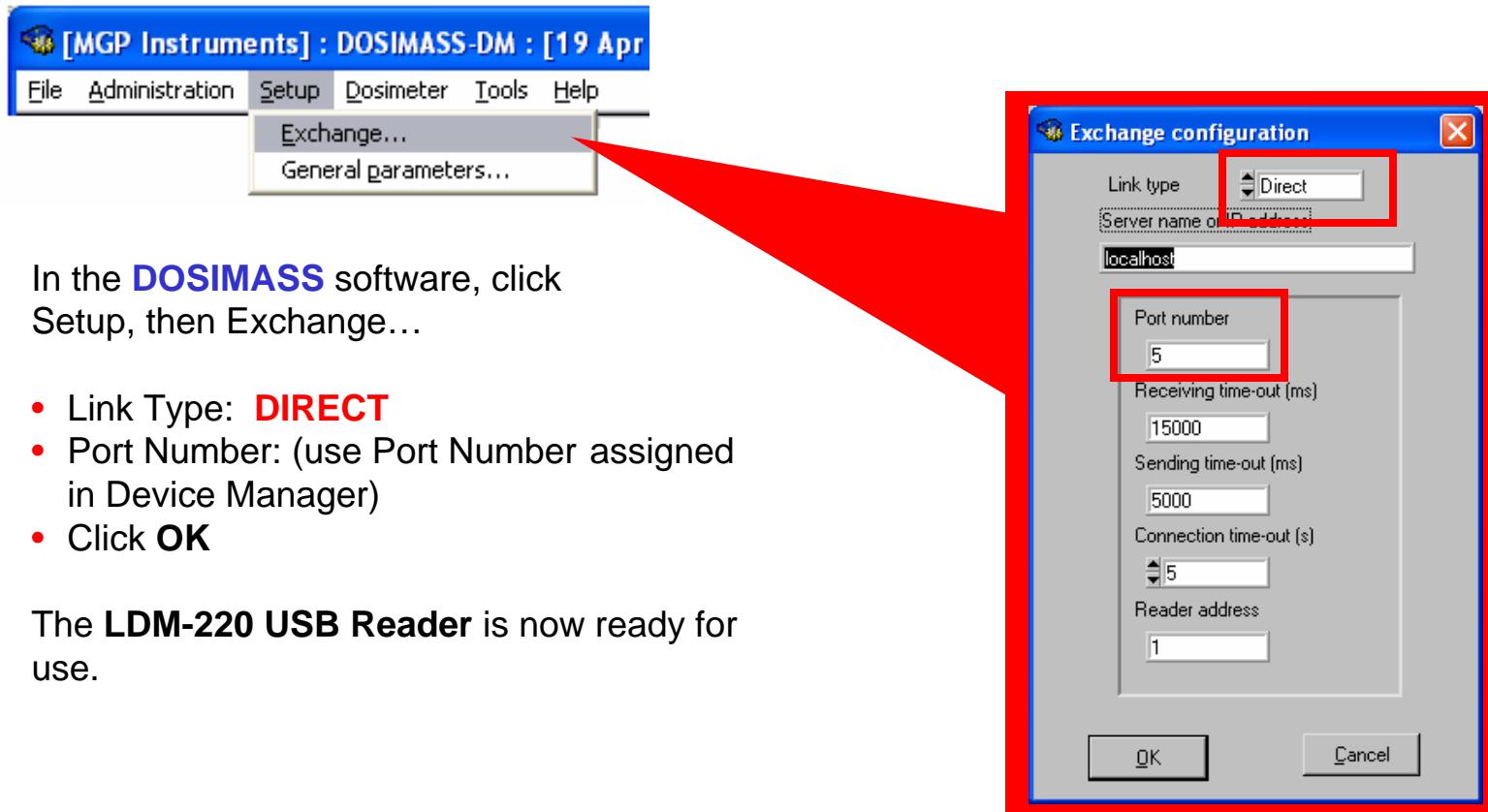
To verify, connect the LDM-220 USB Reader to an available USB port on the computer.

Open the Device Manager (as previously instructed) and confirm the driver-and-COM Port assignment.



DOSIMASS Set-up – cont.

DOSIMASS: Using LDM-220 USB Reader – cont.



In the **DOSIMASS** software, click Setup, then Exchange...

- Link Type: **DIRECT**
- Port Number: (use Port Number assigned in Device Manager)
- Click **OK**

The **LDM-220 USB Reader** is now ready for use.

Dosimass Install: Reader Configuration

Changing Readers in DOSIMASS

Depending upon the type of dosimeter reader used, the **Exchange Configuration** fields may have to be modified...

For use with...

- **LDM-210 Serial**
- **LDM-220 USB**
- **LDM-230 PCMCIA**

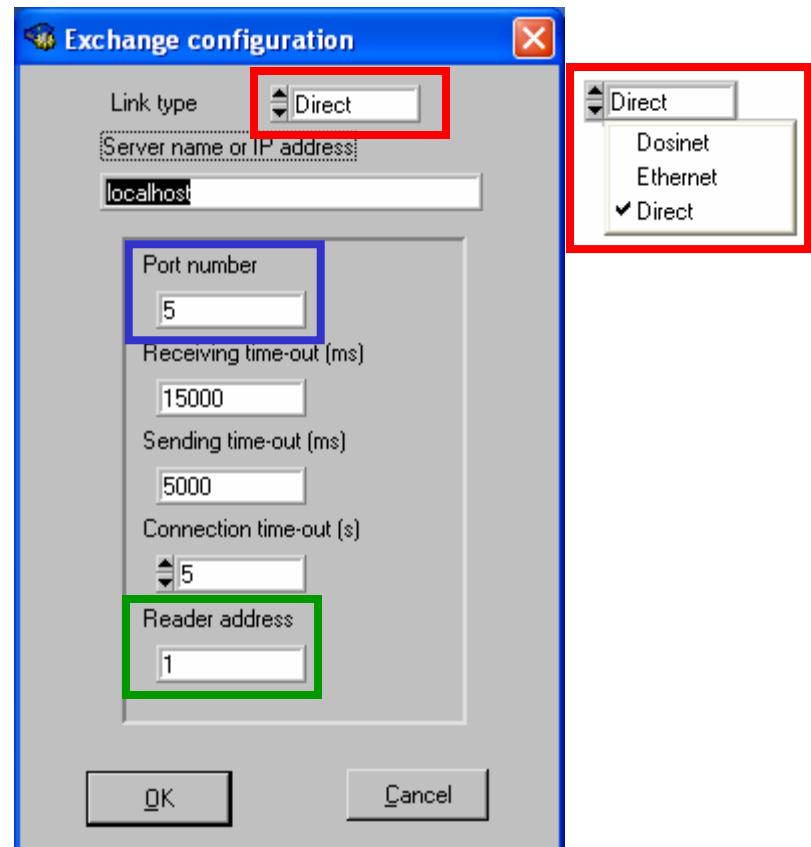
...select the **DIRECT** link type.

Enter the **Port Number** as assigned from the Device Manager – Ports (COM & LPT)

Ensure the **Reader Address** is set for 1

Click **OK**

For the LDM-101, select DosiNet Link type and Reader Address 0

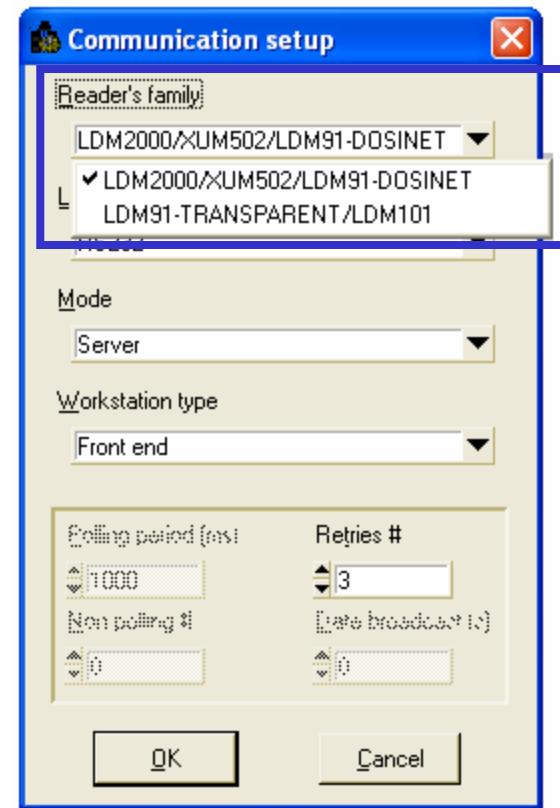
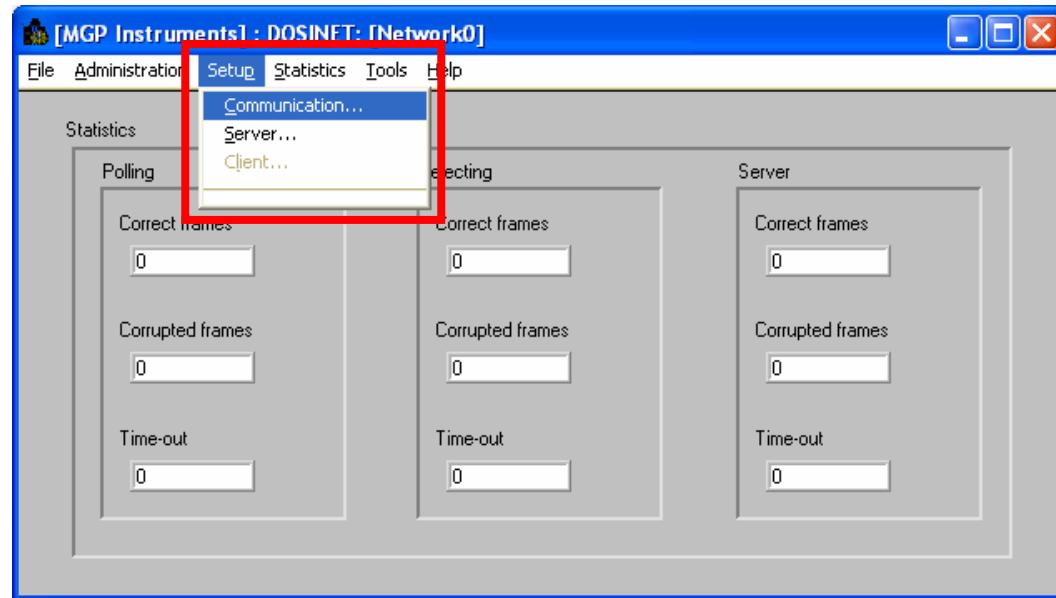


Dosimass Install: Reader Configuration

Changing Readers in DOSIMASS – cont.

If using the **LDM-101 Infra-Red** or **LDM-2000 Hands-Free** Readers, the DOSINET module must be activated.

1. Shut down DOSIMASS.
2. Start DOSINET
3. Log in: User ID: mgpi
Password: mgpi
4. Click Setup, then **Communication**



5. Select the **Reader Family** for the Reader to be used
6. Click **OK**

Dosimass Install: Reader Configuration

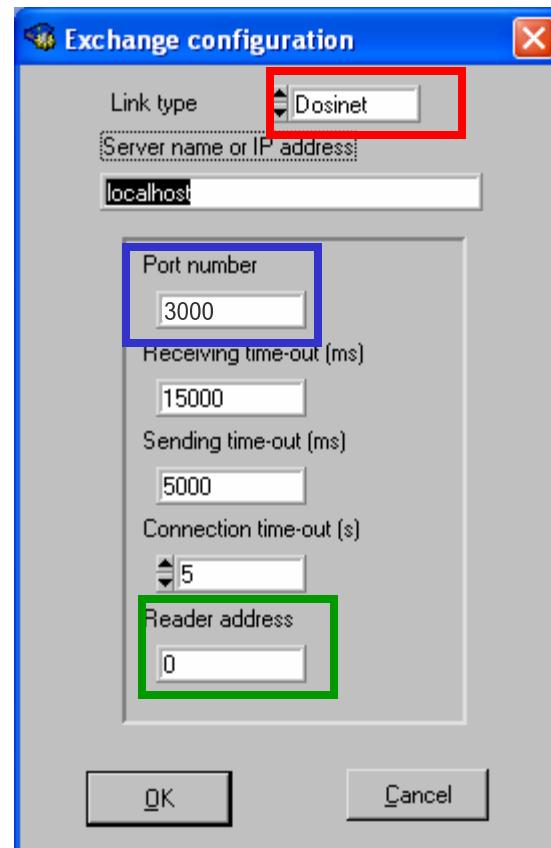
Changing Readers in DOSIMASS – cont.

Start **DOSIMASS** (DOSINET should be minimized, not closed)

1. Log-in
2. Click **Setup**, then **Exchange**
3. Change the **Link type** to **DOSINET**
4. Change the **Port Number** to **3000**
5. Change the **Reader Address** to...
 - **0** for the **LDM-101**
 - **1** for the **LDM-2000**

6. Click **OK**

DOSIMASS is now ready for use.



Dosimass Install: Multiple Software Installations

Multiple DOSIMASS & Reader Configurations

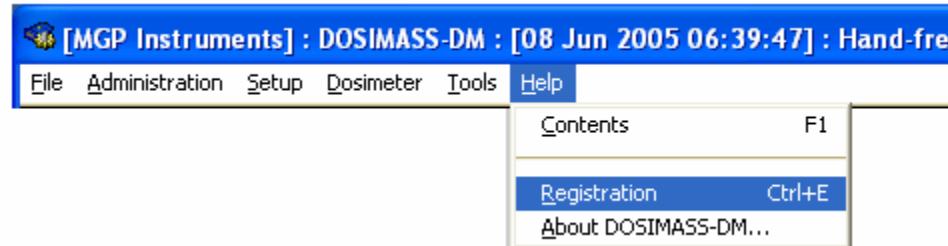
DOSIMASS can be configured for multiple readers on a single computer without having to modify the configuration.

1. In Windows Explorer, locate the **DOSIMASS** installation directory (typically C:\Program Files\ DOSIMASS_DM)
1. Create a **New Folder** (e.g. DOSIMASS USB) in the same directory that **DOSIMASS_DM** is installed (C:\Program Files).
2. Highlight the **DOSIMASS_DM** folder, then select **COPY** from the EDIT menu bar function.
3. Double-click the new folder, then select **PASTE** from the EDIT menu bar function (the DOSIMASS_DM directory contents will be duplicated in the new folder).
4. Create a short-cut on the windows desktop using the **DOSIMASS.EXE** file located in the newly create folder.
5. Run **DOSIMASS** and configure for the reader to be used.
6. Multiple **DOSIMASS** folder can be created and configure to support any reader without have to change the configuration.



DOSIMASS Set-up – cont.

DOSIMASS: REGISTRATION (If not performed during installation)



The **DOSIMASS** software must be registered in order to permit operation of **advanced user functions**.

(If registration was not performed during installation, use this process)

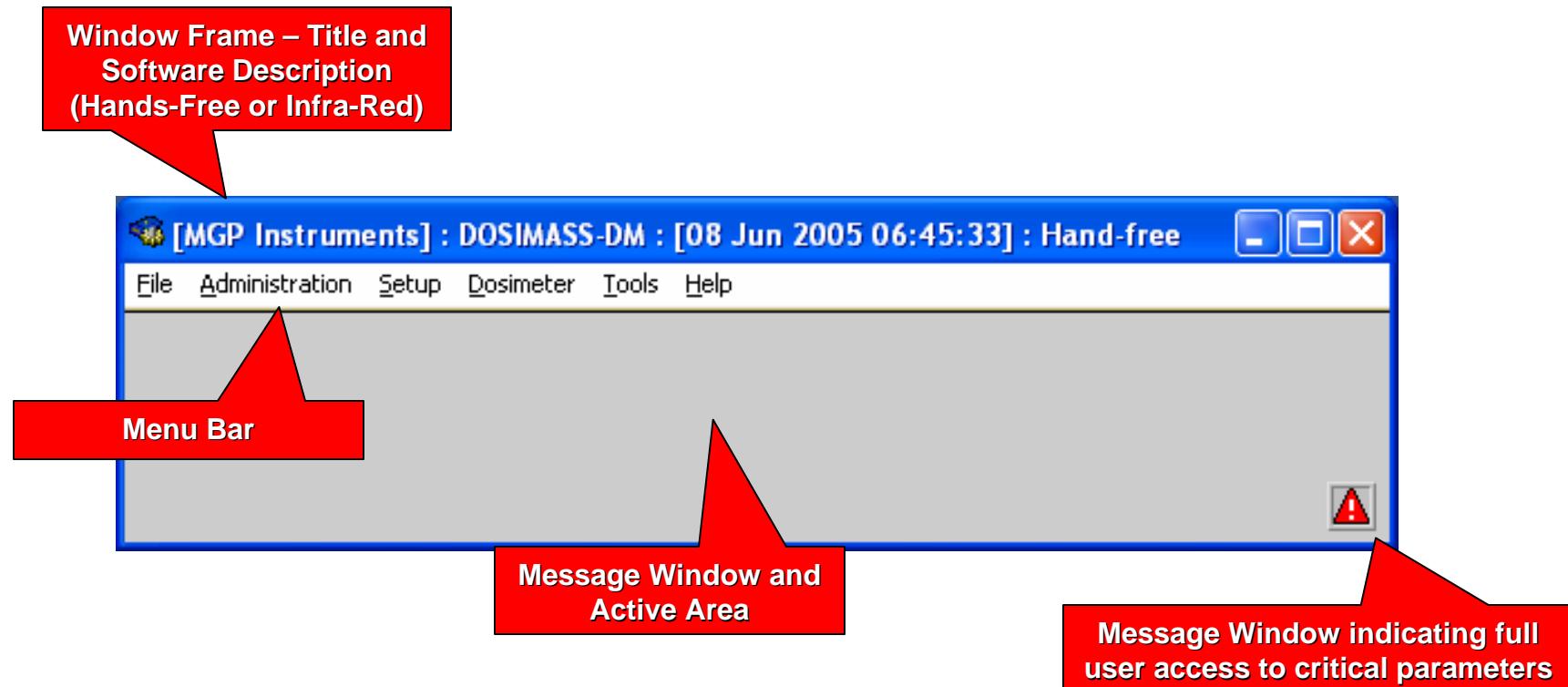
MGP Instruments provides a registration to the User upon request.

The information must be entered into the fields exactly as it appears on the registration form.



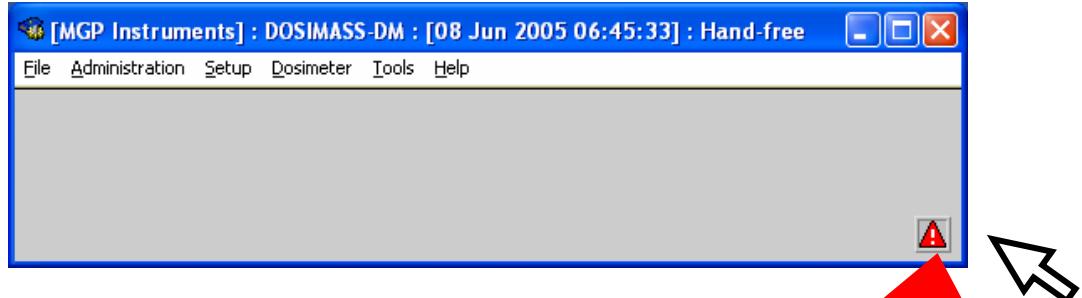
DOSIMASS Navigation

DOSIMASS CONTROL PANEL

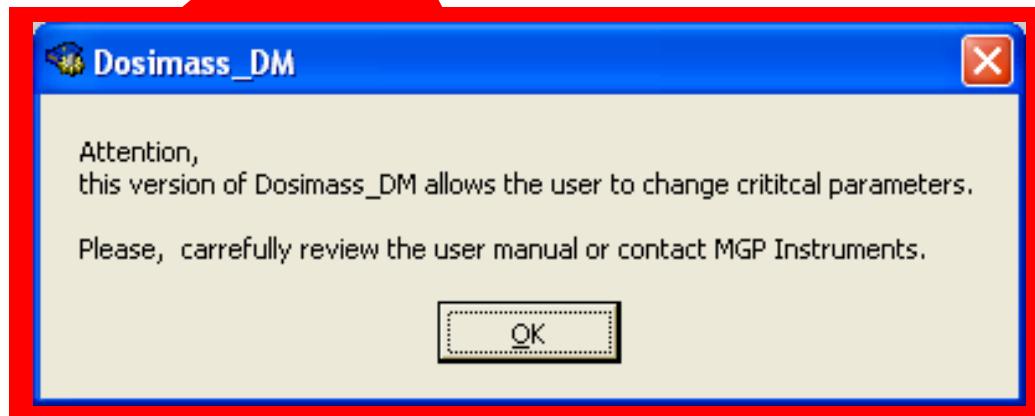


DOSIMASS Navigation – cont.

DOSIMASS CONTROL PANEL – cont.



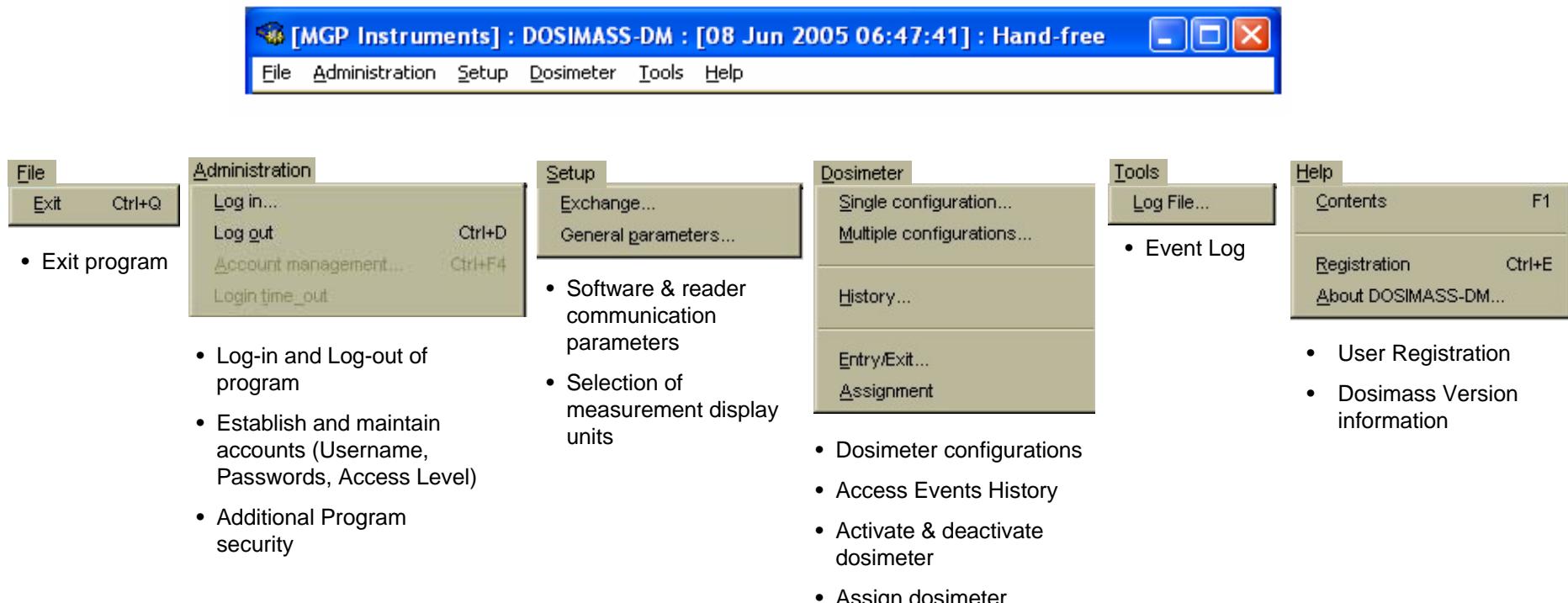
The Red Icon in the lower right portion of the DOSIMASS Control Panel displays the following message:



The presence of the red icon and message indicates that DOSIMASS has been successfully registered, permitting advanced user operation.

DOSIMASS Menu

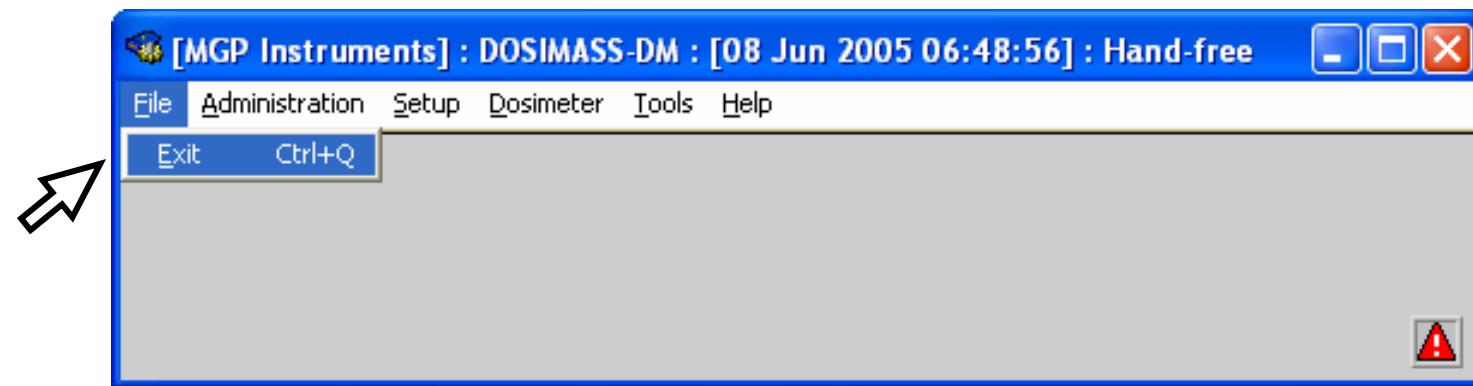
DOSIMASS MENU FEATURES



Menu selections can be accessed by:
Point and click of mouse, and/or press ALT key and Underscored Letter (e.g.; ALT E) or the
CTRL key and Underscored Letter (e.g.; Ctrl+D)

DOSIMASS Menu

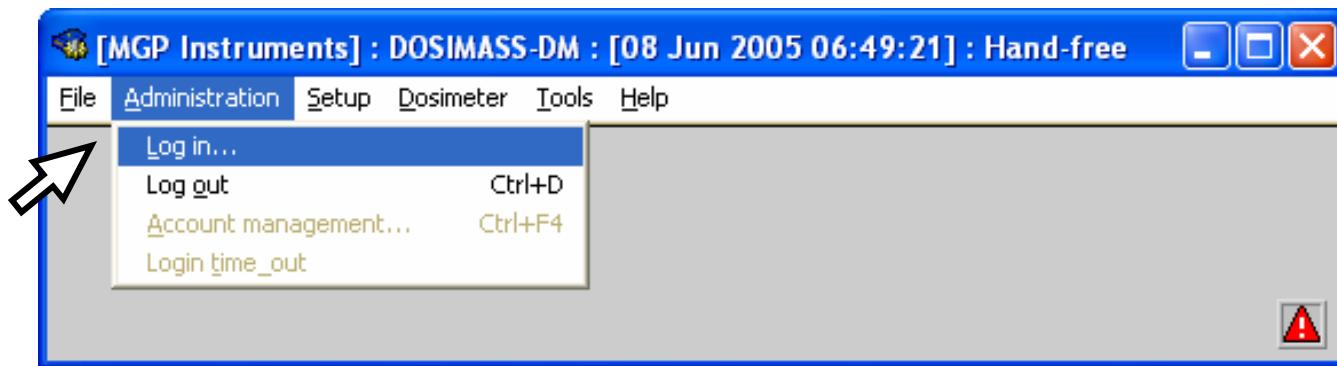
FILE



The **FILE** menu consists of a standard EXIT program function. This menu option can also be accessed using the **Control Q** keystroke or by clicking on the **X** in the upper right corner of the DOSIMASS Control Panel.

DOSIMASS Administration

ADMINISTRATION



The ADMINISTRATION Menu features...

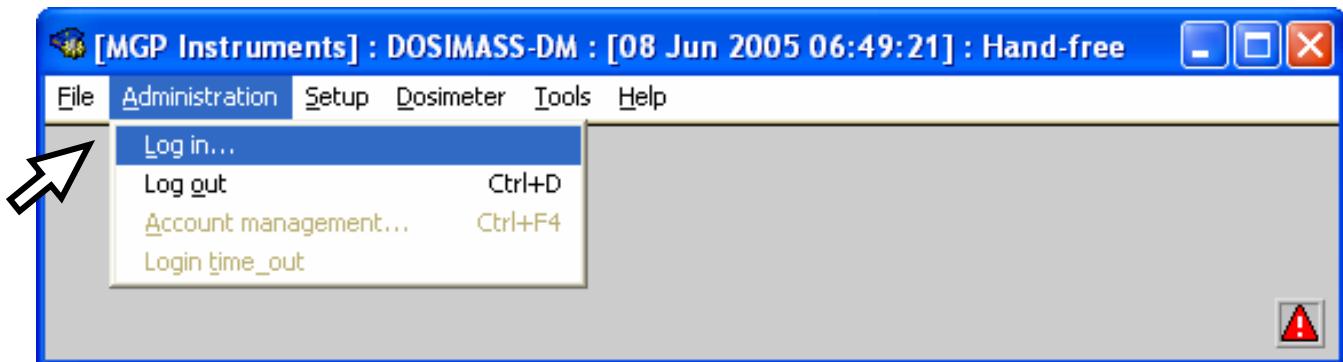
- **Log-In & Log-out:** User and Password security
- **Account Management:** Administration for customized User and Password assignments and security levels
- **Log-in Time out:** An idle period defined to automatically log-out a User from a DOSIMASS session

DOSIMASS Administration – cont.

DOSIMASS LOG-IN

To Log-in to DOSIMASS using the default Usernames and Passwords...

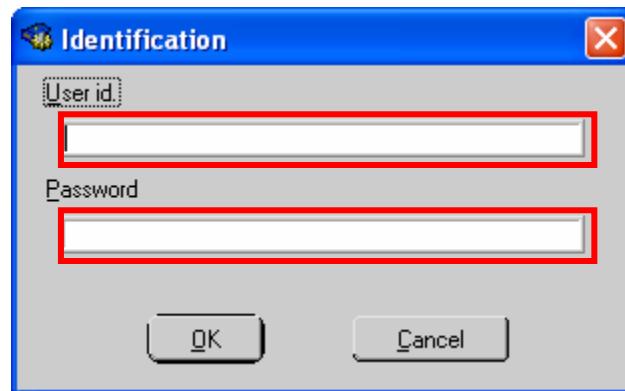
1. Click Administration, Log in...



2. A window will appear prompting the user to enter a User ID and Password...

User Id: -----
Password: -----

Click OK



The Default User Id and Passwords used:

- Operator
- Maintenance
- Supervisor
- Administrator

Password Management is discussed in detail in the following slides.

DOSIMASS Administration – cont.

PASSWORD MANAGEMENT

Password Management is an important element for maintaining security and integrity of dosimeter configurations. The DOSIMASS software has five (5) different access (security) levels. Access to certain features is only permitted if a user possesses the required access level authorization. The DOSIMASS Access Levels are:

- None
- Operator
- Maintenance
- Supervisor
- MGP Instruments
- Administrator (administrative functions only, no device configurations)

Access authorization can be tailored to a specific facility. For example, many users can be assigned specific User ID's and passwords for any of the Access Levels in DOSIMASS by the software Administrator, or, in smaller facilities with few (or even one) User, the default Access Levels may be adequate.

This section will review each of the DOSIMASS Access Levels and the feature offered in each level.

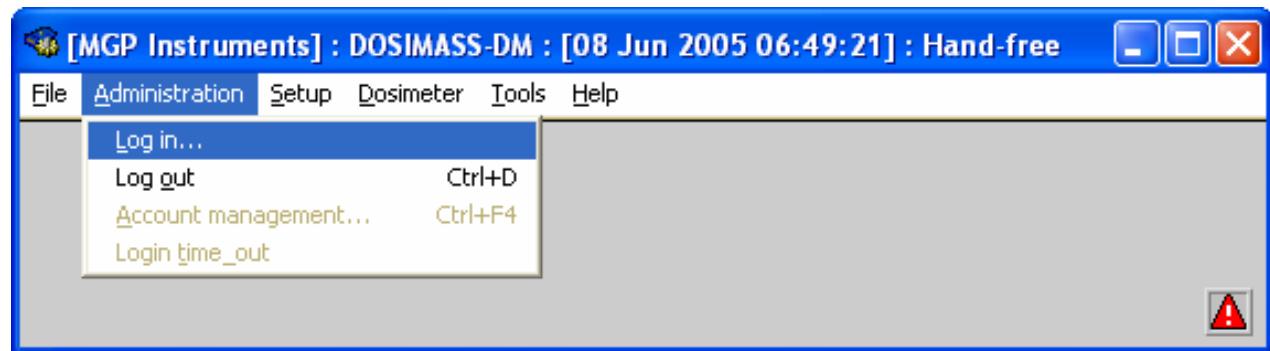


DOSIMASS Administration – cont.

PASSWORD MANAGEMENT: ACCESS LEVELS

To Log-in to DOSIMASS using the default Usernames and Passwords...

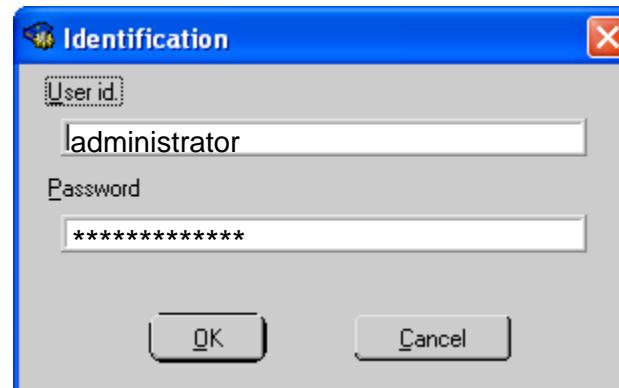
1. Click Administration,
Log in...



2. A window will appear prompting the user to enter a User ID and Password...

User Id: **administrator**
Password: **administrator**

Click **OK**



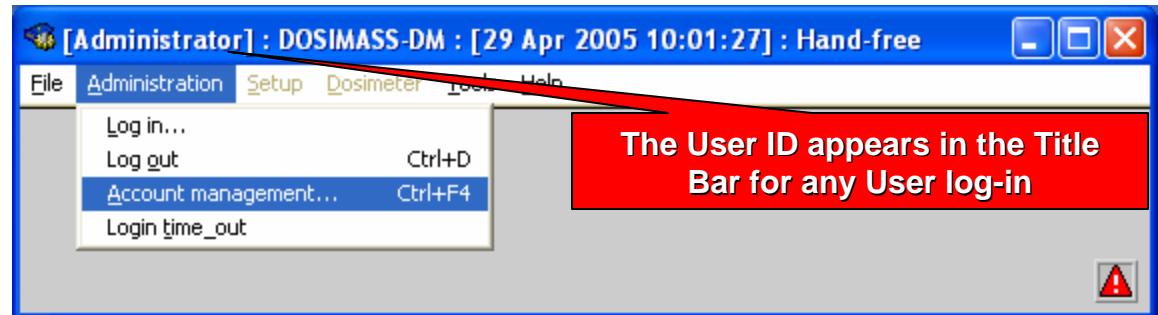
The password will be hidden when entered

DOSIMASS Administration – cont.

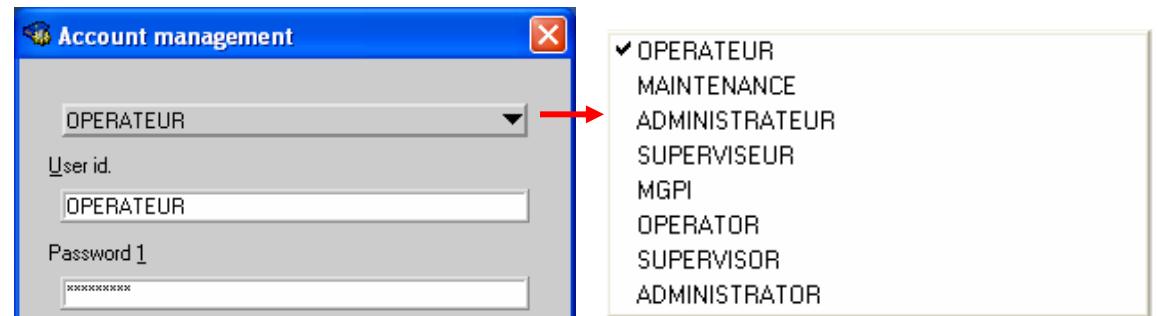
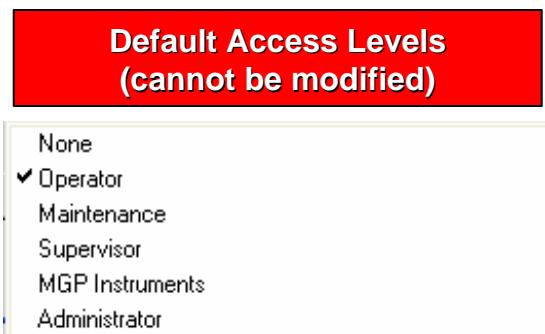
PASSWORD MANAGEMENT: ACCESS LEVELS – cont.

To view access levels and modify/create User IDs and password accounts...

1. Click Administration, Account Management.



2. The Account Management window is displayed...



Default User ID's
(custom User ID's and
Passwords can be added)

DOSIMASS Administration – cont.

PASSWORD MANAGEMENT: ACCESS LEVELS – cont.

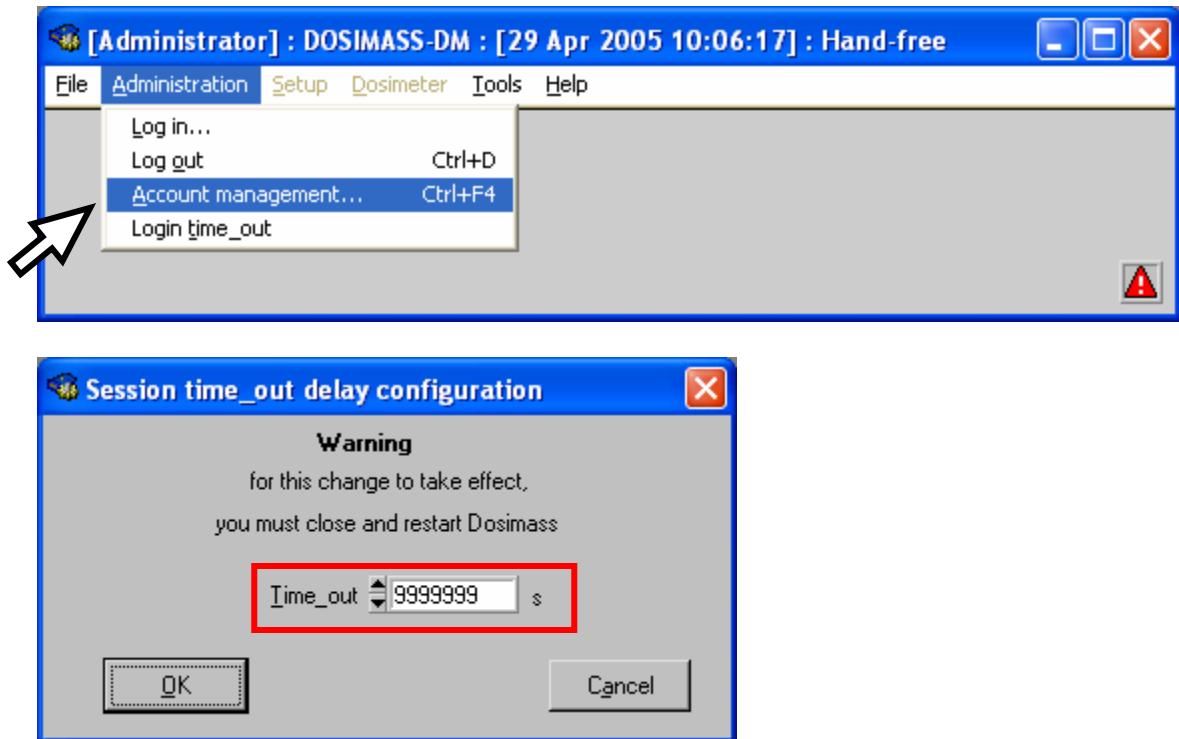
Function	LEVEL	NONE	ADMINISTRATOR	OPERATOR	MAINTENANCE	SUPERVISOR	FACTORY
User Name	----	administrator	operator	maintenance	supervisor	mgpi	
Password	----	administrator	operator	maintenance	supervisor	XXXXX *	
Measures & Thresholds	Yes Read Only	No	Yes Partial Access	Yes - Full	Yes - Full	Yes - Full	
Assignment	Yes Read Only	No	Yes – Full	Yes - Full	Yes - Full	Yes - Full	
Status	No	No	Yes Read Only	Yes Read Only	Yes Read Only	Yes - Full	
Operating Parameters	Yes Read Only	No	Yes – Full	Yes - Full	Yes – Full	Yes - Full	
Calibrations	No	No	Yes Read Only	Yes Partial Access	Yes Partial Access	Yes - Full	
User Block	No	No	Yes Read Only	Yes Partial Access	Yes Partial Access	Yes - Full	
System	No	No	Yes Read Only	Yes Partial Access	Yes Partial Access	Yes - Full	
Factory	No	No	No	No	No	Yes - Full	
Histogram	Yes	No	Yes	Yes	Yes	Yes	
Comment	Read Only Access	Account management only	Partial access to select functions – Calibration Values Restricted	Multiple configuration permission denied	Multiple configuration allowed	Multiple configuration allowed	

DOSIMASS Administration – cont.

SECURITY: LOG- IN TIMEOUT

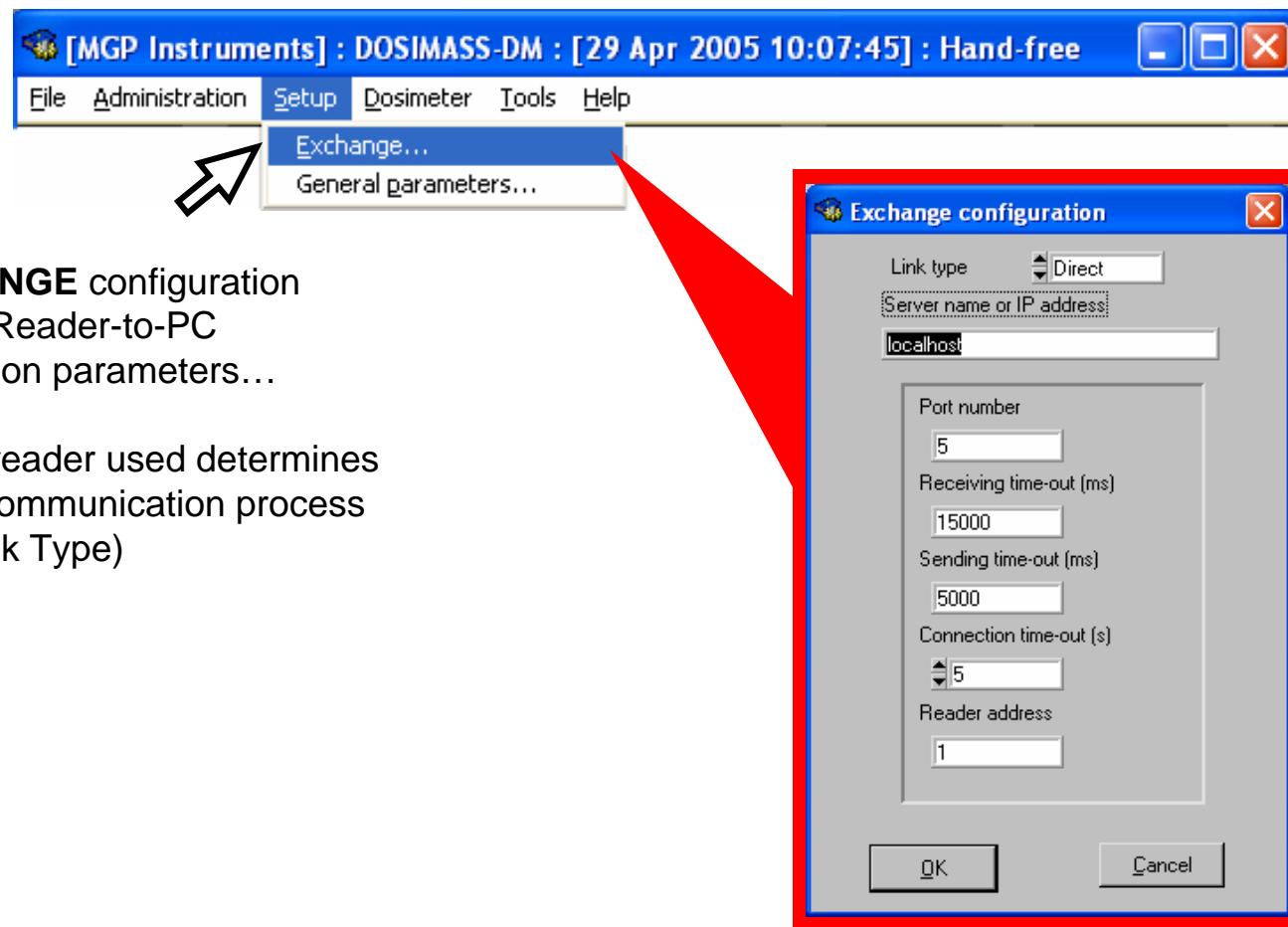
The Log-in Time Out feature provides an added level of security. DOSIMASS will log-off from the current user if the idle time exceeds the time out threshold. To modify:

1. Click Administration, Login **Time_out**
2. The Session time_out delay configuration window will appear.
3. In the Time_out field, enter all 9's to maximize the idle time (if desired).
4. Click OK
5. Close and Restart DOSIMASS for changes to take effect.



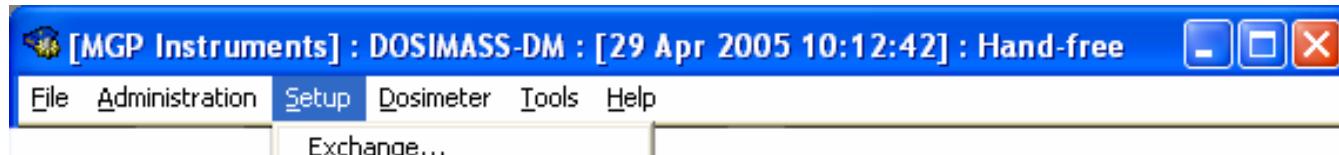
DOSIMASS Setup- cont.

SET-UP: EXCHANGE



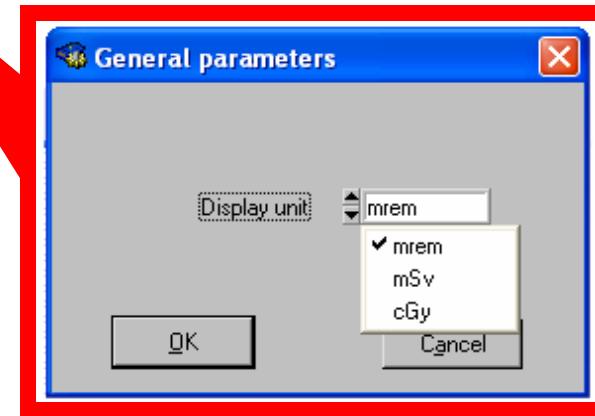
DOSIMASS Setup – cont.

SET-UP: GENERAL PARAMETERS (Post Installation Reminder)



GENERAL PARAMETERS allows for selection of display units:

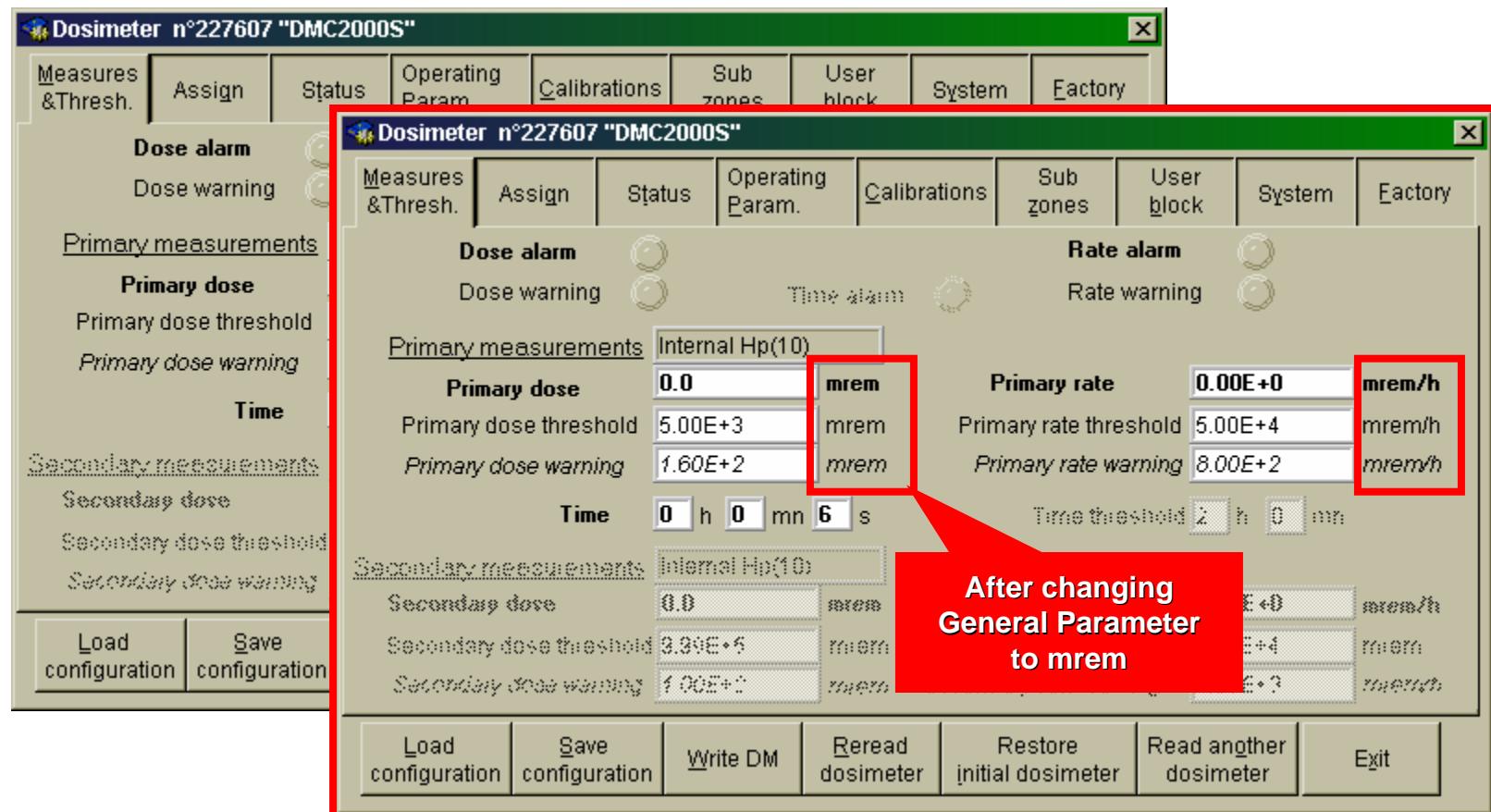
- mrem - millirem
- mSv - milliSievert
- cGy - centigray



NOTE: The default General Parameter setting for DOSIMASS (following installation) is in units of mSv (milli-sievert). Prior to software operation, change this setting to mrem (milli-rem) as shown above.

DOSIMASS Setup – cont.

SET-UP: GENERAL PARAMETERS – cont.



Dosimeter Entry/Exit

OVERVIEW OF DOSIMETER ENTRY & EXIT OPERATION

This section reviews the process of activating (Entry, RUN mode) and deactivating (Exit, PAUSE mode) a dosimeter using the Entry/Exit feature

The Entry function enables the user to:

- Activate the dosimeter
- Configure the dosimeter with new thresholds for dose alarm and warning, dose rate alarm and warning
- Time alarm (duration)

The Exit function enables the user to:

- Deactivate the dosimeter
- Observe any alarms while the dosimeter was active
- Obtain the primary measurement values including dose, dose rate and duration while the dosimeter was active.

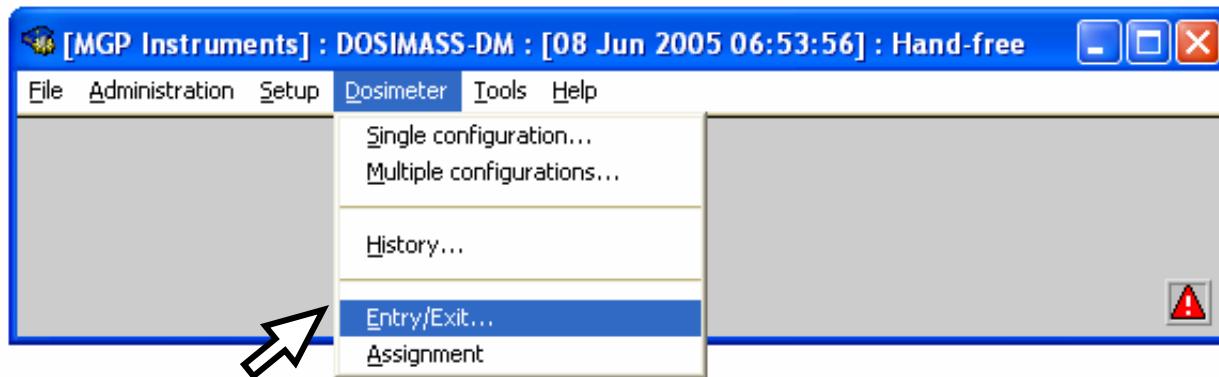
Note: The Entry/Exit function is authorized for all DOSIMASS access levels except that of the ADMINISTRATOR level. See **Password Management** section for detailed access level authorization.



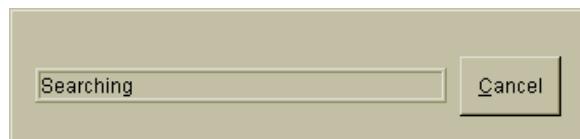
Dosimeter Entry/Exit – cont.

ENTRY: ACTIVATING THE DOSIMETER

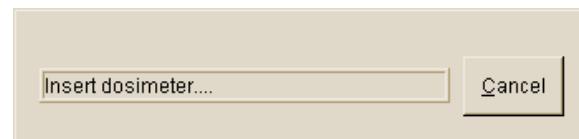
1. From the DOSIMASS Menu bar, click Dosimeter, **Entry/Exit**



2. A window will appear requesting insertion of, or, searching for a dosimeter (depending upon reader type used)...



Display for Hands-Free Reader
(LDM-2000, 210 or 220)



Display for LDM-101 Infra-Red
Reader

Dosimeter Entry/Exit – cont.

ENTRY: ACTIVATING THE DOSIMETER – cont.

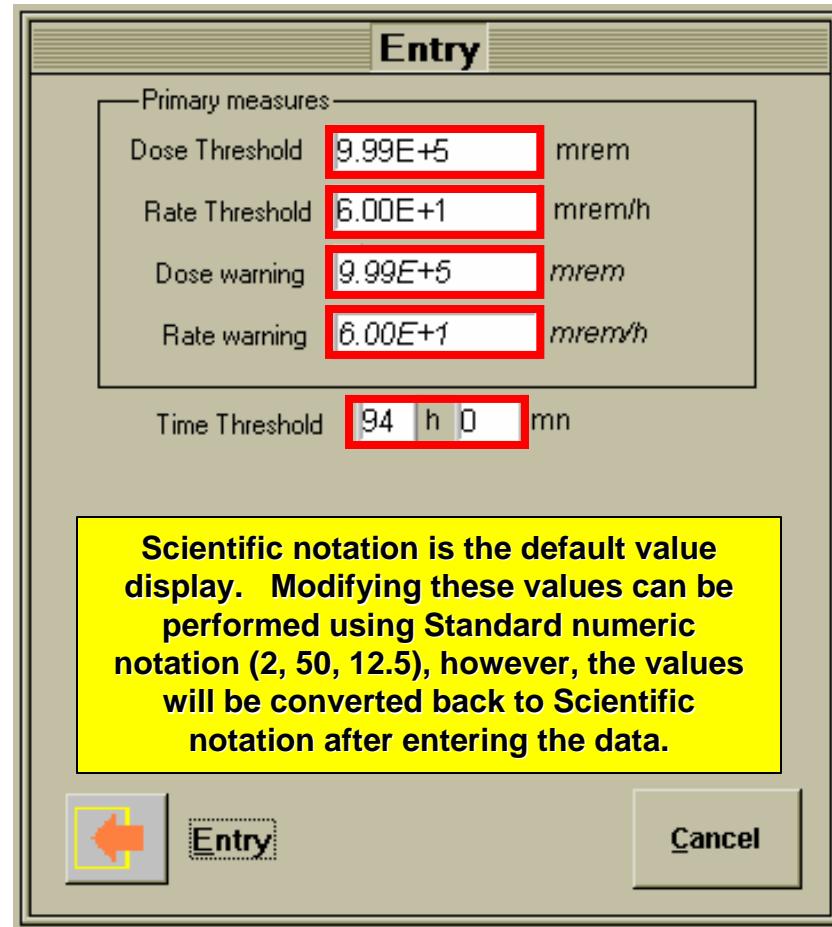
Following the read sequence, the **Entry** window appears...

The highlighted fields allow the User to modify the Dose, Rate and Time Thresholds and Warnings

Click the **ENTRY** button



Or press the **ENTER** key to program the values into the dosimeter



NOTE:
Warning and Time Threshold are only displayed in this window if the field have been enabled in the Operating Parameters Configuration Window

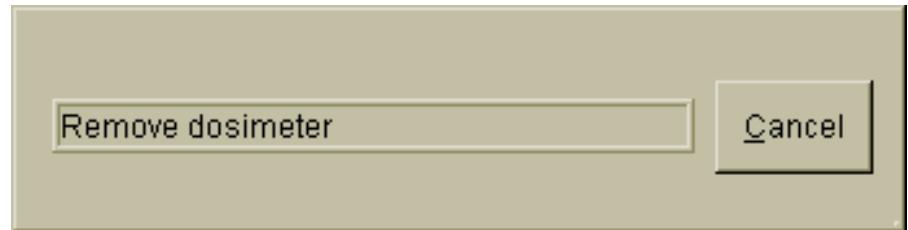
Dosimeter Entry/Exit – cont.

ENTRY: ACTIVATING THE DOSIMETER – cont.

Upon completion, DOSIMASS will prompt the user to remove the dosimeter. At this point, the dosimeter has been programmed with the dose, rate and time thresholds and is activated (in RUN mode).

This process can be used repeatedly – to individually program and activate additional dosimeters. After removing the dosimeter from the reader, DOSIMASS will prompt the user to insert another dosimeter.

Alternatively, the user can click the CANCEL button to return to the DOSIMASS main control panel to perform other functions or exit the program.



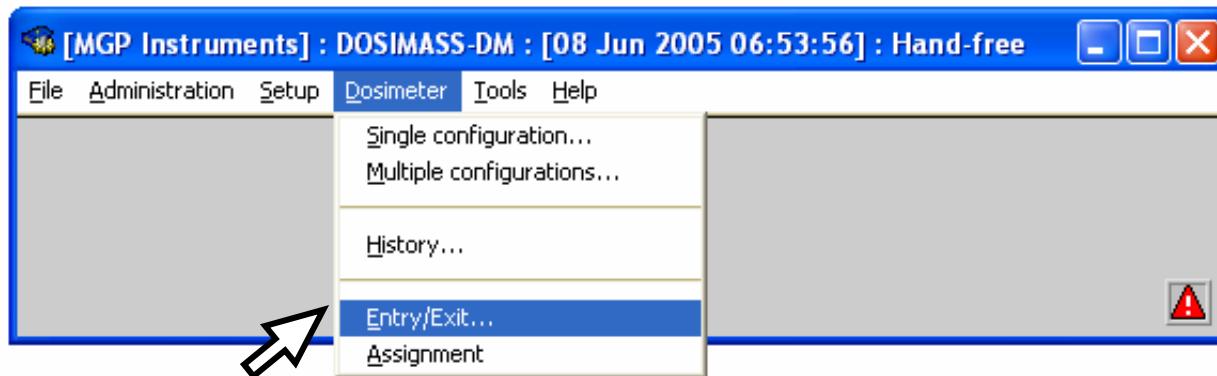
NOTE:

When used with a hands-free reader, the dosimeter is not physically removed from the reader (as with the LDM-101). When prompted to "remove dosimeter", the User needs only to move the dosimeter away from the reader's communication range.

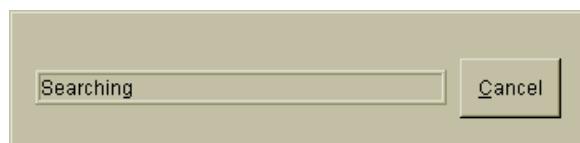
Dosimeter Entry/Exit – cont.

EXIT: DEACTIVATING THE DOSIMETER

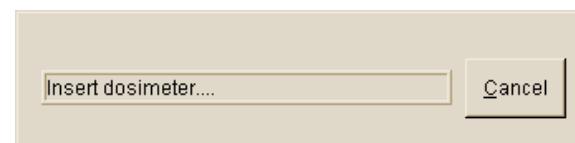
1. From the DOSIMASS Menu bar, click Dosimeter, **Entry/Exit**



2. A window will appear requesting insertion of, or, searching for a dosimeter (depending upon reader type used)...



Display for Hands-Free Reader
(LDM-2000, 210 or 220)



Display for LDM-101 Infra-Red
Reader

Dosimeter Entry/Exit – cont.

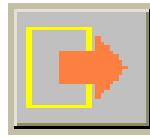
EXIT: DEACTIVATING THE DOSIMETER – cont.

Following the read sequence, the **Exit** window appears...

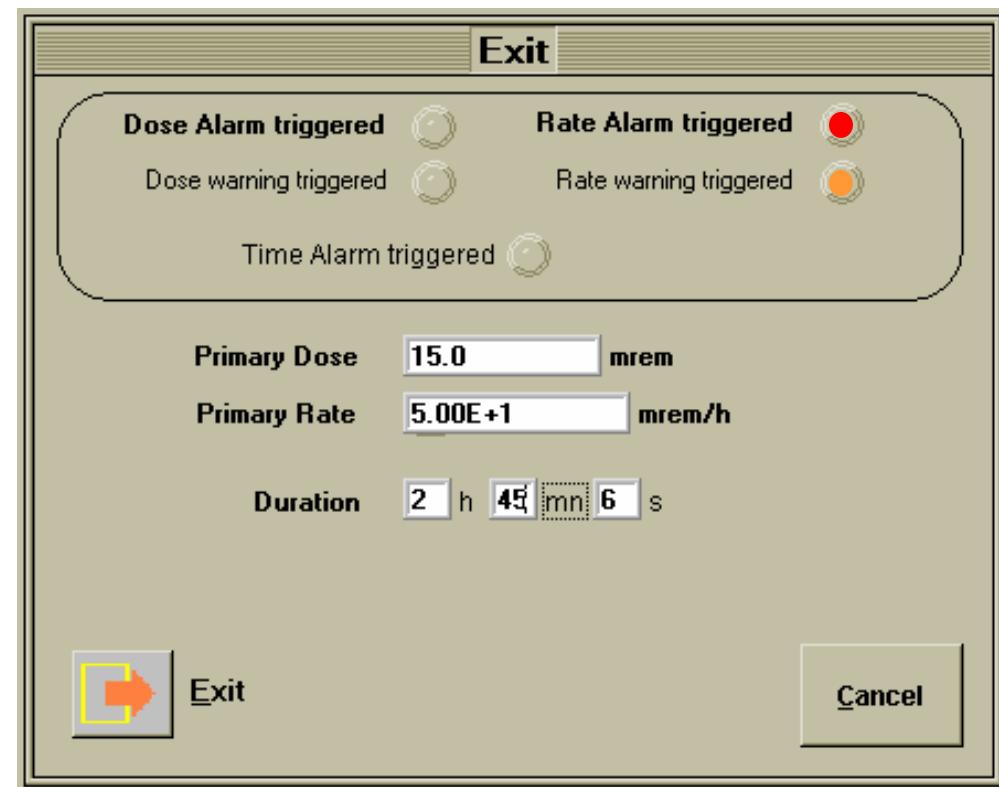
If an ALARM or WARNING was triggered while the dosimeter was active, a RED (ALARM) or ORANGE (WARNING) light will be illuminated.

The primary Dose and rate measurements are displayed.

Click the EXIT button



Or press the enter key (keyboard) to complete the EXIT process.



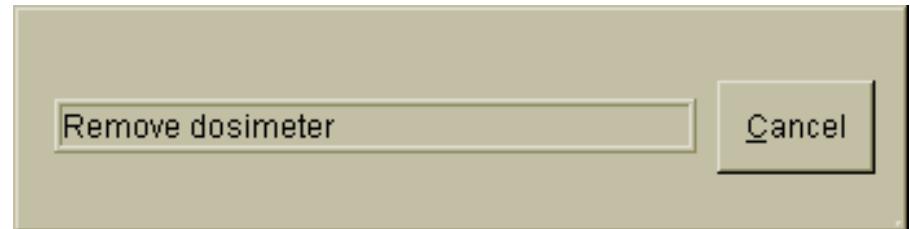
Dosimeter Entry/Exit – cont.

EXIT: DEACTIVATING THE DOSIMETER – cont.

Upon completion, DOSIMASS will prompt the user to remove the dosimeter. At this point, the dosimeter has been deactivated (PAUSE mode)

This process can be used repeatedly – to individually program and activate additional dosimeters. After removing the dosimeter from the reader, DOSIMASS will prompt the user to insert another dosimeter.

Alternatively, the user can click the CANCEL button to return to the DOSIMASS main control panel to perform other functions or exit the program.



NOTE:

When used with a hands-free reader, the dosimeter is not physically removed from the reader (as with the LDM-101). When prompted to "remove dosimeter", the User needs only to move the dosimeter away from the reader's communication range.

DOSIMASS Configuration

OVERVIEW OF DOSIMETER CONFIGURATIONS

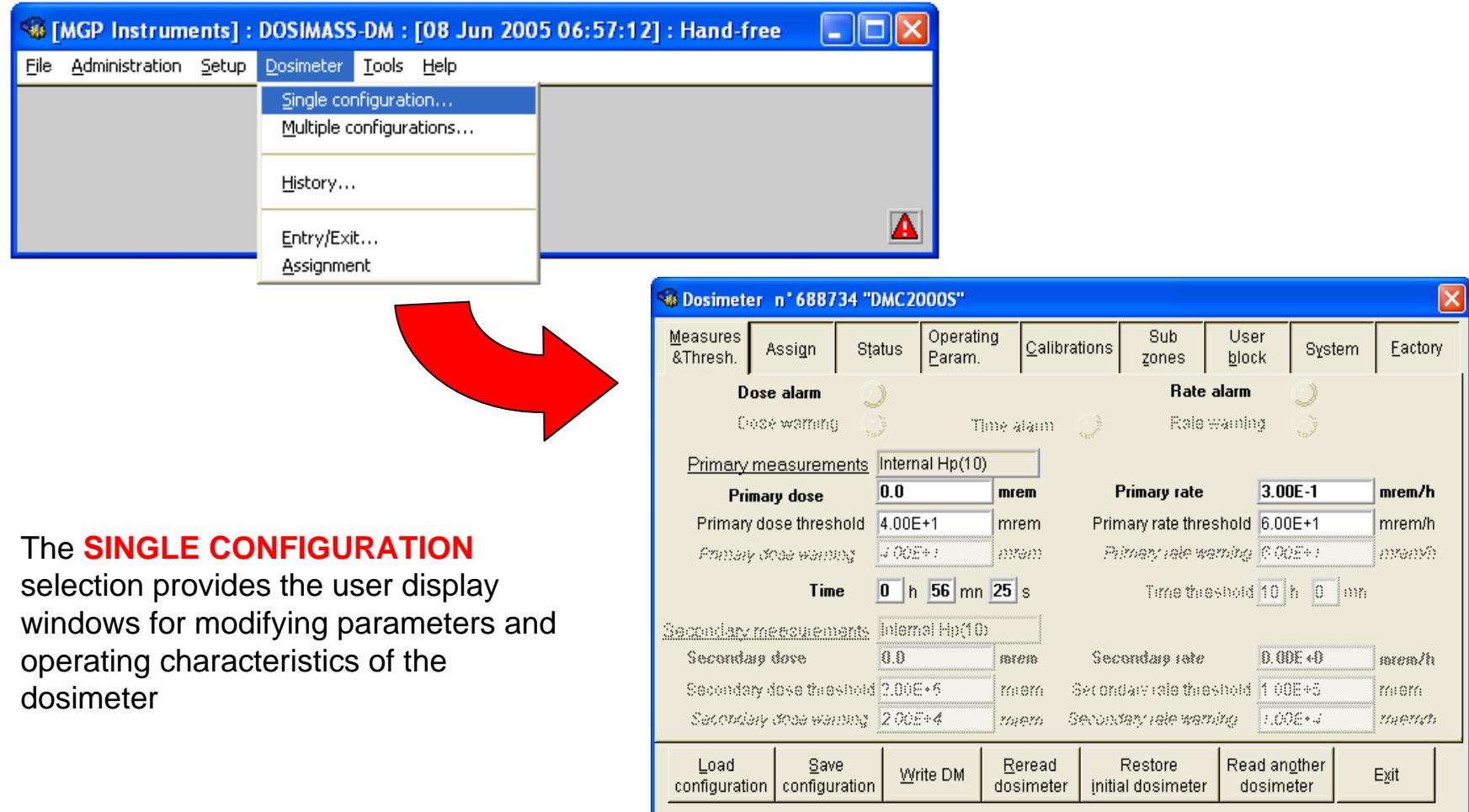
The DOSIMASS software provides two (2) basic methods for configuration of a dosimeter: **Single Configuration** and **Multiple Configuration**. The Single Configuration feature provides the user with a detailed glimpse of a dosimeter's parameters, and multiple fields for modifying specific parameters based on a user's needs. The Multiple Configuration feature allows a user to program multiple dosimeters to the same consistent parameters using a single configuration file.

DOSIMASS also features User Security with five (5) access levels. Each access level permits specific functions relative to configurations of a dosimeter.

DOSIMASS configurations can be performed in a variety of ways, and the following section will provide a detailed review of the configuration windows and their functions. The Configuration Windows used in this section display the factory (MGP Instruments) access level for greater detail.

DOSIMASS Configuration - cont.

DOSIMETER: SINGLE CONFIGURATION

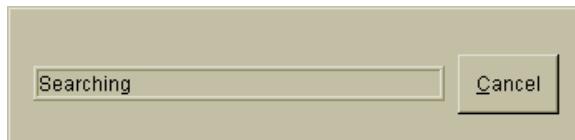
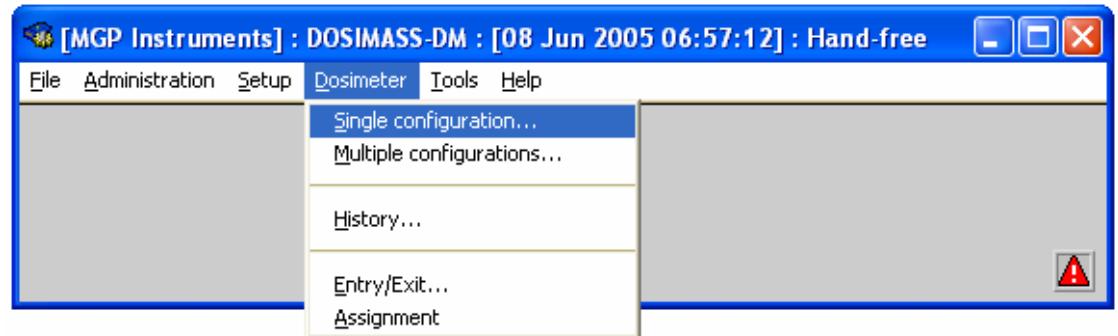


The **SINGLE CONFIGURATION** selection provides the user display windows for modifying parameters and operating characteristics of the dosimeter

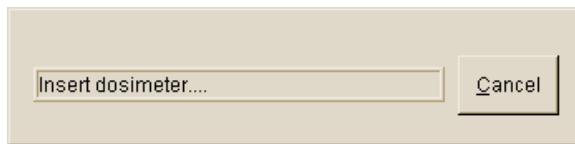
DOSIMASS Configuration - cont.

READING A DOSIMETER FOR SINGLE CONFIGURATION

1. Click Dosimeter, **Single Configuration...**
2. A window will appear requesting insertion of, or, searching for a dosimeter (depending upon reader type used)...



Display for Hands-Free Reader
(LDM-2000, 210 or 220)



Display for LDM-101 Infra-Red Reader



Click the Video Clip to start an example of the
hands-free dosimeter read sequence

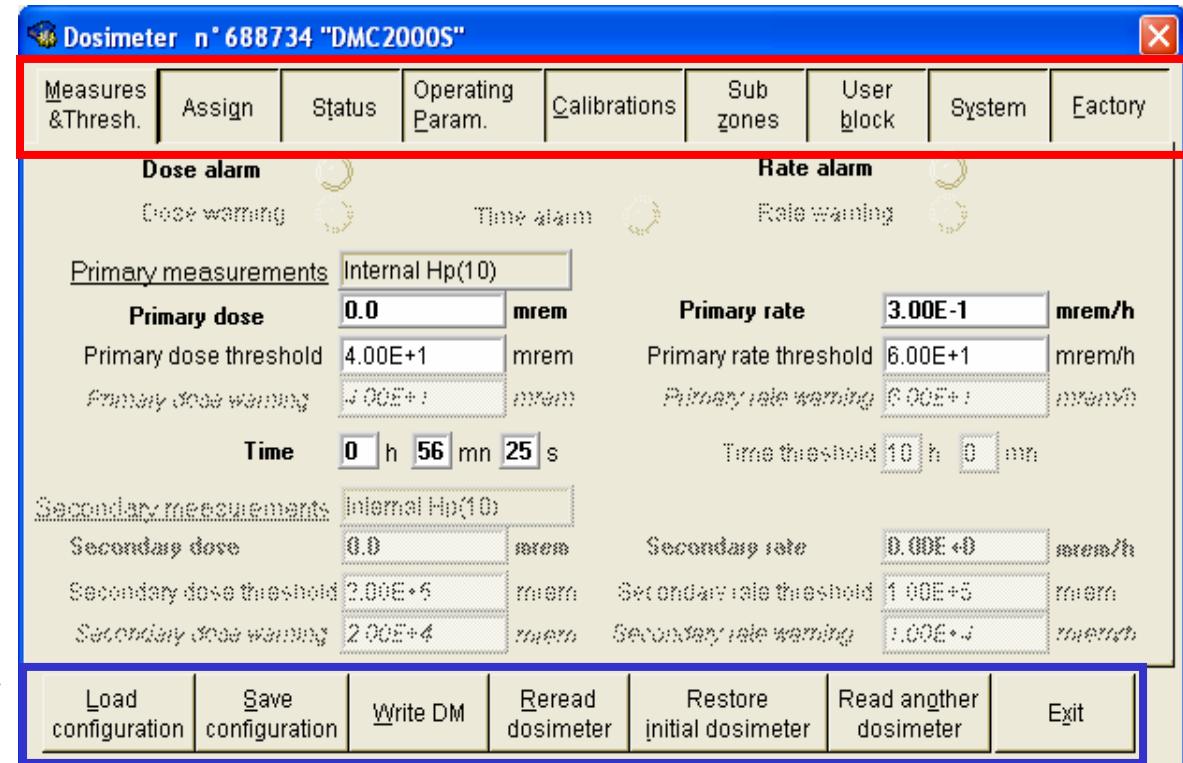


DOSIMASS Configuration - cont.

READING A DOSIMETER FOR CONFIGURATION – CONT.

Following the read sequence, the Configuration Window will open...

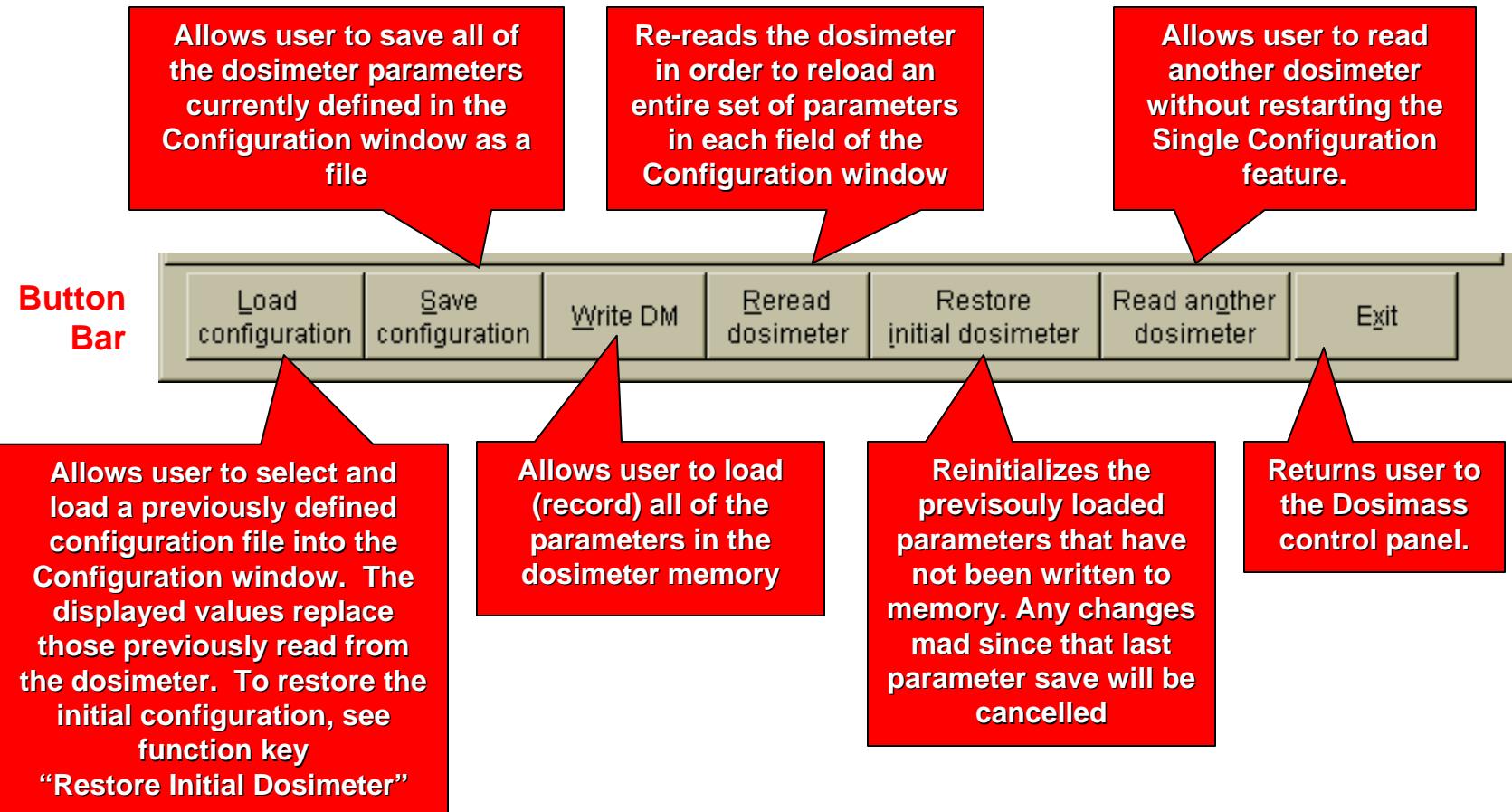
Configuration Screen Tabs: Enable easy navigation and display of configuration parameter windows



Command Button Bar: Provides file save, load and dosimeter read functions

DOSIMASS Configuration - cont.

COMMAND BUTTON BAR



DOSIMASS Configuration Windows

MEASURES & THRESHOLDS

Alarms and Alerts:
The alarms and alerts that are produced during the last visit into a controlled area and are signaled by red and orange colored lights. When a button remains gray, the corresponding alarm was not activated during the last visit

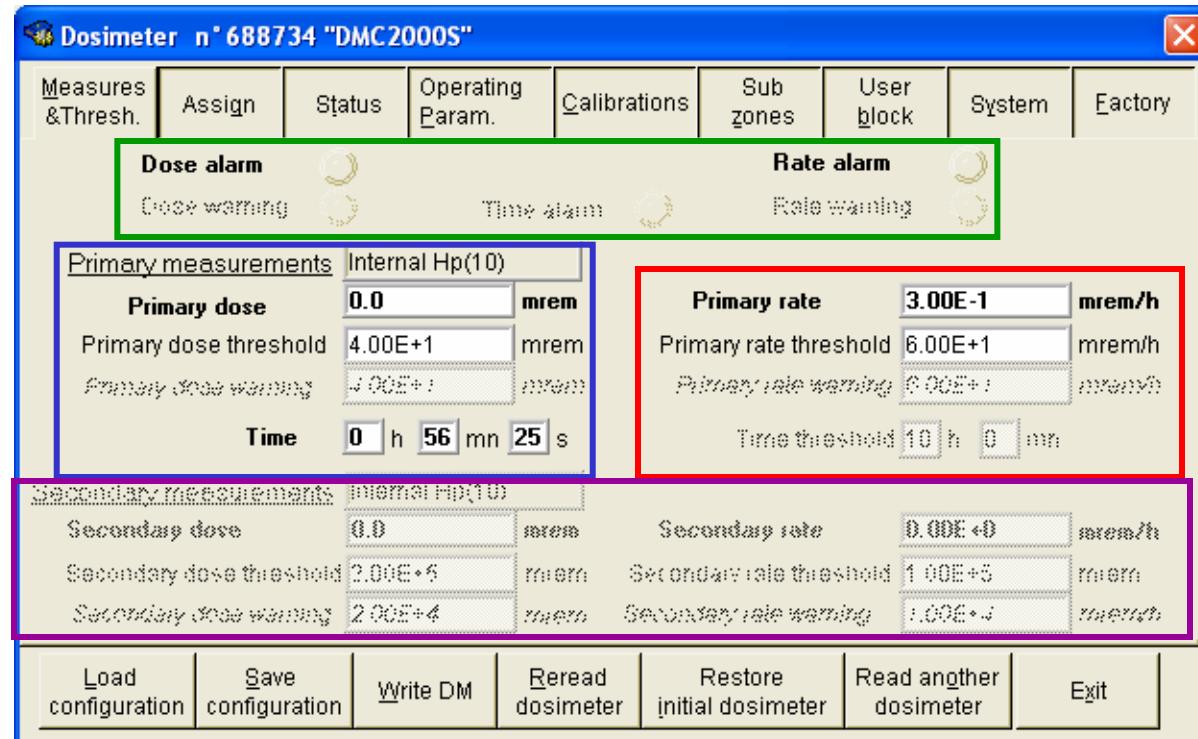
Primary Measurements: a non-modifiable field provides information relative to primary measurements

Primary Dose: The dose that the dosimeter accumulated during the last entry into the controlled are (for primary measurement)

Primary Dose Threshold: The dose alarm threshold (for the primary measurement)

Primary Dose Warning: The dose alert threshold (for the primary measurement)

Time: The duration of the last entry into the controlled area.



Secondary Measurements: Active field indicate configurable parameters for the shallow dose (beta) measurements of the DMC-2000XB

Primary Rate:
The maximum dose rate detected by the dosimeter during the last entry into the controlled area.

Primary Rate Threshold:
The dose rate alarm threshold (for the primary measurement)

Primary Rate Warning:
The dose rate warning threshold

Time Threshold: The allowable duration until time alarm.

DOSIMASS Configuration Windows

ASSIGN

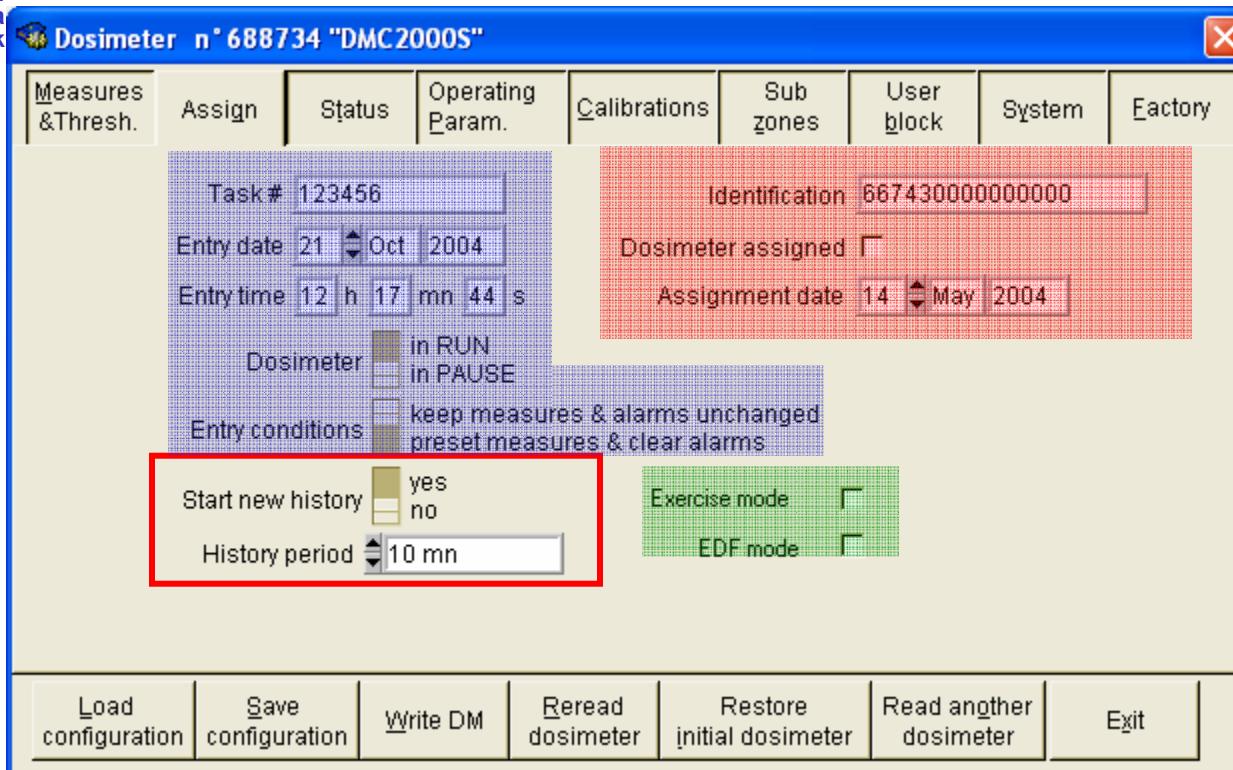
Task Code: a code that enables the identification between a dosimeter and a task

Entry Date: used in order to indicate the start date of the Events History when the Dosimeter is activated from the assignment tab

Entry Time: used in order to indicate the start time of the Events History when the Dosimeter is activated from the assignment tab

Entry Conditions:
Unchanged Alarms and Measures: enables conservation of the cumulative dose and alarm status of the Dosimeter at the time of its activation. To maintain the cumulative dose, the Autonomous Dose parameter must not be in the **Reset to Zero position** (see the section entitled **Operating Parameters**).

Preset measures and clear alarms: enables the pre-positioning of the dose and duration values with the measurement values input in the **Measurement and Threshold** section.



Start New Events History: enables the user to begin a new Events History at the time of Dosimeter activation from within the Assignment Tab or to continue with the Events History in progress. If "No" is selected additional histogram events will be added to the existing histogram and may not reflect the actual date and time.

Events History Period: enables the definition of a specific time period of the Events History used for the calculation of the dose increments, including the following parameters: 10 seconds, 1 minute, 10 minutes, 1 hour, 24 hours

Identification: an alphanumeric field identifying the wearer of the Dosimeter

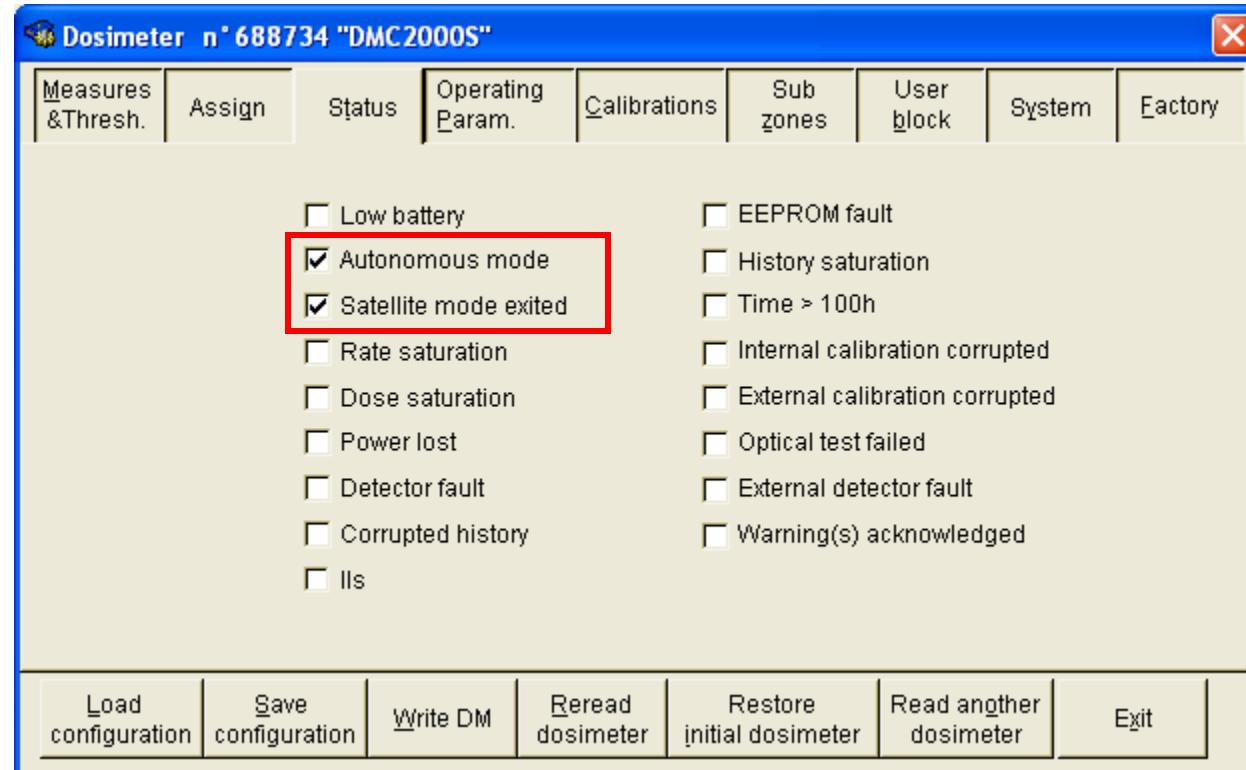
Assigned Dosimeter: the Dosimeter reads "ASSIGNED" instead of "PAUSE" when it deactivated; when the dosimeter is in "run" mode, the **USER DISPLAY** will be displayed in addition to the radiological measurements

Assignment date: provides information regarding an assignment of the Dosimeter for information purposes.

DOSIMASS Configuration Windows

STATUS

The Status Tab indicates status word flags recorded in the dosimeter memory.
The fields are 'Read-only'



The Status window provides the user with a quick look at dosimeter parameters, conditions or problematic events

DOSIMASS Configuration Windows

OPERATING PARAMETERS

History Fault: Reported in Pause: when Dosimeter is deactivated, all faults relative to the Events History are indicated on the display

Paused DM Display: enables the definition of the Dosimeter display when it is in "pause" mode

Displayed Measures: defines the dosimeter measurement display mode (in RUN); Primary and/or Secondary options are used for multi-detector dosimeters

Display Format: defines format of measurement displays (mrem...) and number of digit in display range
Floating Point: permit 5 significant digits as well a d: & r: associated with dose or rate measurements
Fixed Point: permit 6 significant digits without d: or r: prefix

Parameters: Visible in Pause: when Dosimeter is deactivated, pressing the Selection button enables the display of parameters

Dose in Autonomous: valid for a Dosimeter used in the Autonomous Mode. Added up: when the Dosimeter is activated, the value of previous dose measurement is retained.

Fast Entry: Pre-sets dosimeter for one button push activation

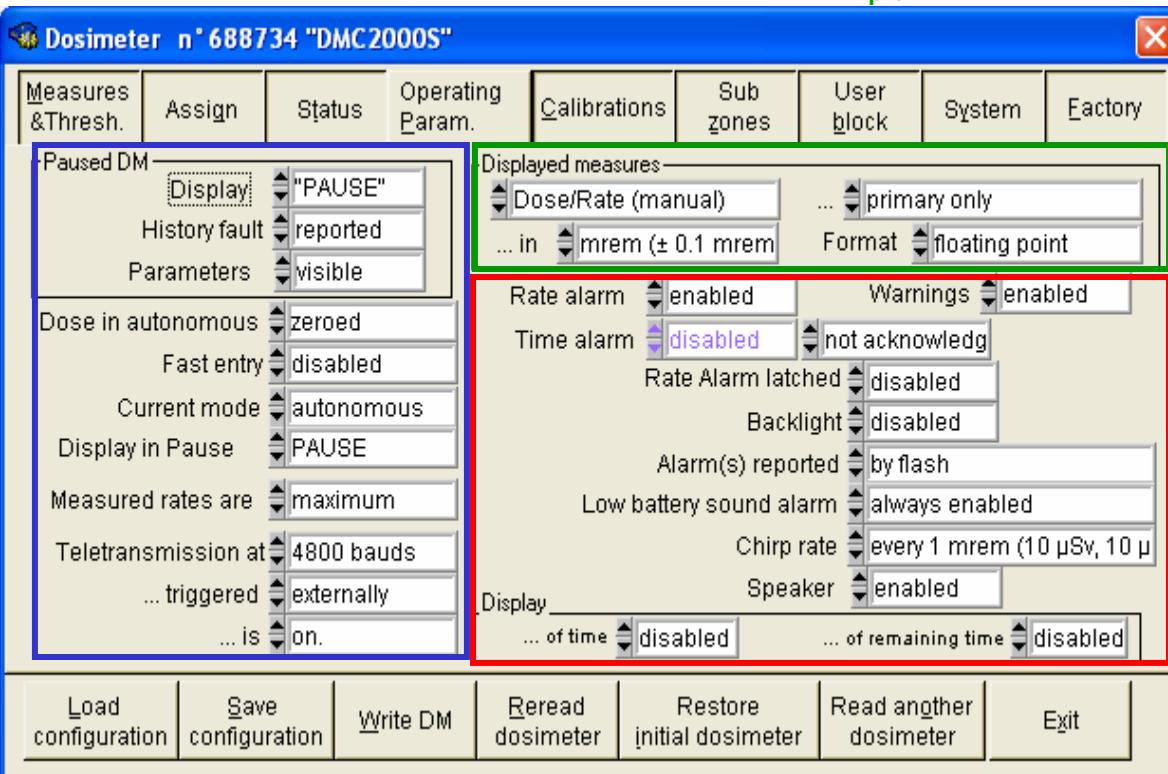
Current Mode: definition of dosimeter operating mode. Military: enables military features and Message 22 storage areas for features such as Flash, PMOS

Display in Pause: Enables PAUSE to be displayed in an alternate language

Measured Rates: Maximum: the maximum rate retained in memory and displayed after exit.

Instantaneous: Current rate measured and displayed since last display update

Teletransmission: Serial Data transmission – set to 4800 Baud for DMC-2000 with CTM-2000 & PAM-TRX; 300 Baud for DMC-2000 used with AM/DDC-16; 300 Baud for DMC-90/100 applications



Triggered: Determines data transmission mode
Externally: enable request from externally connected device (CTM)
Periodic: Dosimeter transmits data at pre-set interval (3-5 secs)

Display - Time: Allows current time in "HH:mm" Pressing dosimeter button in run mode displays internal clock (synchronized by PC)

Display - Remaining Time: Displays remaining time for Dose or time alarm is triggered. Time to Dose alarm is based on time and dose rate

Warning: enables validation or invalidation of warnings

Rate Alarm: enables or disables the dose rate alarm.

Time Alarm: enables or disables the time alarm. Can also be acknowledged

Rate Alarm Latched: if the dose rate threshold is triggered, only silenced by exit (turning off dosimeter)

Backlight: Enables or disables the backlight DMC-100 and Military version dosimeters

Alarms Reported: Enables or disables the illuminated LED flash during an alarm

Low Battery Sound Alarm: Enables or disables audible beeps during bA Lo (low battery indications)

Chirp Rate: Select frequency of audible beeps for incremental dose accumulated

Speaker: Enables or disables the audible speaker

DOSIMASS Configuration Windows

CALIBRATIONS

Internal Detector: Characteristics and calibration factors for all internal detectors

Calibration Date: Original factory calibration date – can be manually entered to record dates of calibrations

Minimum Background: Used to determine detector status (self-check). If no counts are received in 10752 seconds (factory preset – do not change), the function is considered questionable and is reported as a def det on the display.

Polarization: Sensitivity factor used for setting voltage across diode. *Factory parameter – do not modify*

Dead Time: Correction factor for the S model DMC-2000. Based on Diode lot. *Factory parameter, do not modify.*

Channel 1 Threshold: Noise and background discrimination for single-diode dosimeters (S) Based on Diode lot. *Factory parameter, do not modify.*

Channel 2 & 3 Threshold: Noise and background discrimination for multi-diode dosimeters (X, XB). Based on Diode lot. *Factory parameter, do not modify.*

Dead Time Channel 2 & 3: Correction factor for the X & XB dosimeters. *Factory parameter based on Diode lot, do not modify.*

Calibration factor - Gamma: Deep Dose (HP 10) factor adjusted in multiples of 4 for DMC-2000S (single diode) using Cs-137

Energy factor - Deep Dose: Gamma energy compensation coefficients – factory pre-set based on multi-source (Am & Cs) exposure used to establish ratio of energy response to Cs-137. *Factory parameter, do not modify.*

Dosimeter n° 667469 "DMC2000S"

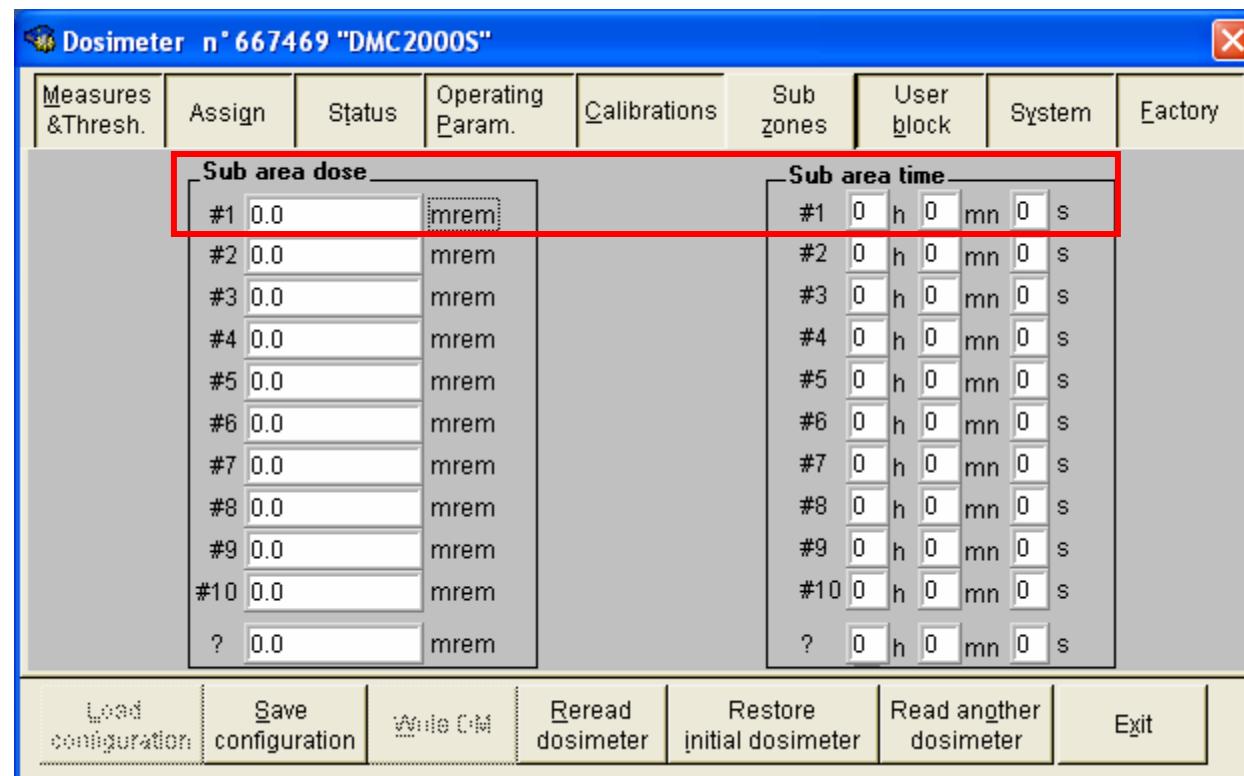
Measures & Thresh.	Assign	Status	Operating Param.	Calibrations	Sub zones	User block	System	Factory
Internal Detector <div style="border: 1px solid blue; padding: 5px;"> Calibration 14 May 2004 Minimum Bkg 10752 s Polarization 15 </div> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> Dead Time 4 Ch1 Thr. 13 Ch2&Ch3 Thr. 25 Dead Time V2&3 4 </div> <div style="width: 45%;"> K1p Eff. 2.72E+2 K2p Eff. 1.00E+0 K3p Eff. 0.0000 K4p Eff. 1.0000 </div> </div>				<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> K1s Eff. 3.00E+2 K2s Eff. 1.00E+0 K3s Eff. 0.00E+0 K4s Eff. 1.00E+0 </div> <div style="width: 45%;"> K1p Eff. 3.00E+2 K2p Eff. 1.00E+0 K3p Eff. 0.0000 K4p Eff. 1.0000 </div> </div>				
External Detector <div style="border: 1px solid blue; padding: 5px;"> Calibration 26 May 2004 Minimum Bkg 10752 s Polarization 15 </div> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> Dead Time 4 Ch1 Thr. 25 Ch2&Ch3 Thr. 25 Dead Time V2&3 4 </div> <div style="width: 45%;"> K1p Eff. 3.00E+2 K2p Eff. 1.00E+0 K3p Eff. 0.0000 K4p Eff. 1.0000 </div> </div>				<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> K1s Eff. 3.00E+2 K2s Eff. 1.00E+0 K3s Eff. 0.00E+0 K4s Eff. 1.00E+0 </div> <div style="width: 45%;"> K1p Eff. 3.00E+2 K2p Eff. 1.00E+0 K3p Eff. 0.0000 K4p Eff. 1.0000 </div> </div>				
Load configuration	Save configuration	Write CM	Reread dosimeter	Restore initial dosimeter	Read another dosimeter	Exit		

Calibration& Energy factor for XB – Beta: Shallow Dose (HP 7) factor adjusted in multiples of 4 for DMC-2000XB (multiple diode)

DOSIMASS Configuration Windows

SUB ZONES

Configuration of the Sub-Zone tab is detailed in the DOSIMASS USER MANUAL. This feature is only used (and active) with a n LDM-2000 Reader configured for Sub-Zone use.



DOSIMASS Configuration Windows

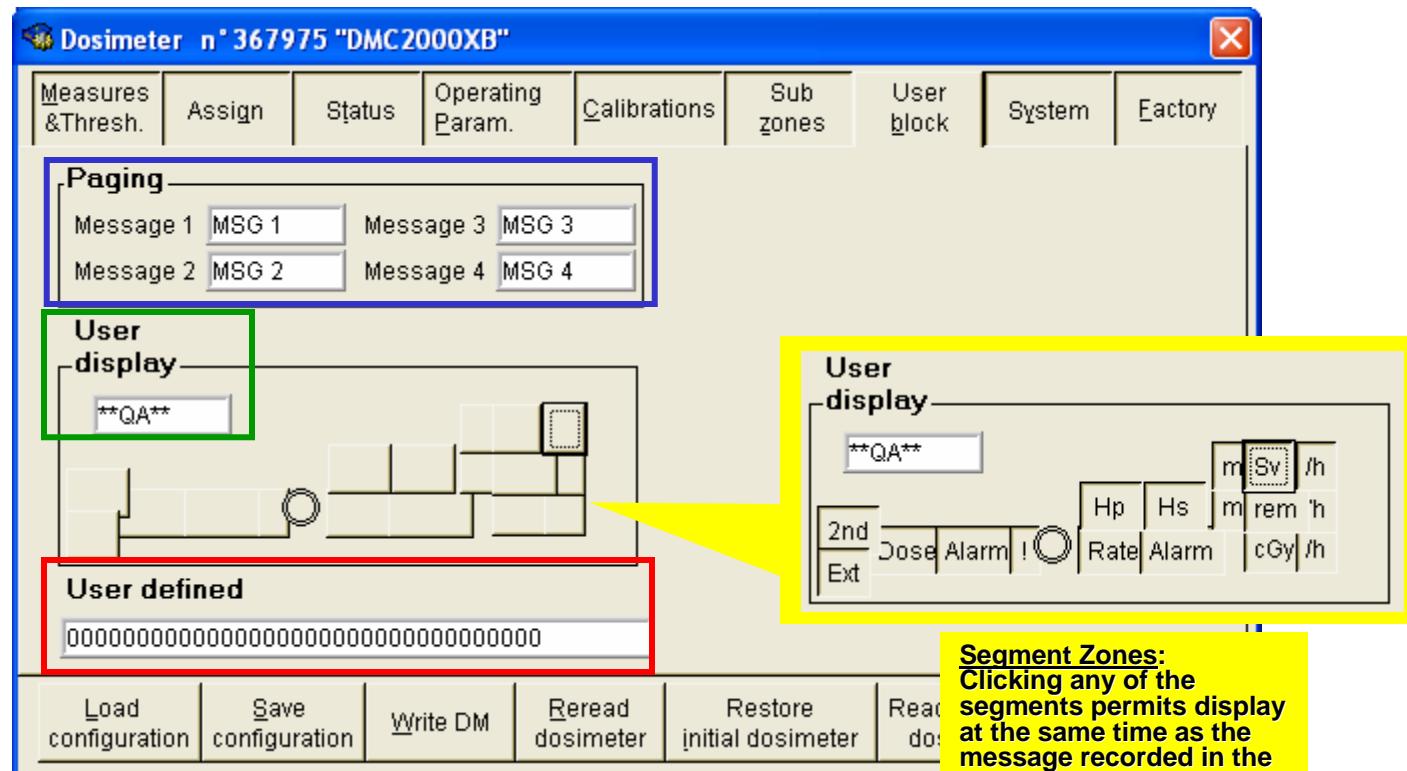
USER BLOCK

Paging:
This input field (accessible by LDM-2000 Reader only) allows the definition of 4 alphanumeric messages.

The feature enables the transmission of messages from the LDM-2000 reader to a dosimeter in close proximity

User Display:
An alphanumeric message up to 6 characters, displayed on the dosimeter when in PAUSE mode and when assigned in RUN mode.

Must be configured for User Display option in Operating Parameters.



User Defined:
Refers to the memory allocated in the dosimeter where the user can store any ASCII message.

DOSIMASS Configuration Windows

SYSTEM TAB

E2PROM Reading Window: Size, in bytes of data block transmitted during E2PROM reading

Marking Timeout: LDM-2000 use in Marker Mode

Firmware Version: number that enables clear identification of software version internal to dosimeter

Low Battery Autonomy: PAUSE: Operating time remaining for dosimeter in PAUSE mode after low battery indication; RUN: Operating time remaining for dosimeter in RUN mode after low battery indication;

Loaded/Unloaded Battery Required Level: Minimum power level parameters required to permit operation of active (loaded) and inactive (unloaded) dosimeters during times defined by the parameter.

Factory parameter – do not modify.

Calib. Mode: Factory parameter for use in calibration (permits access to counting by PULSE

Low Rate Algo: Permits the dose rate display in uSv/h (0.1 mrem/hr) – typically for environmental monitoring

Optical Diode: Permits the validation of the optical test device (photon emitter)

Detector Saturation: Defines the saturation threshold for the detector

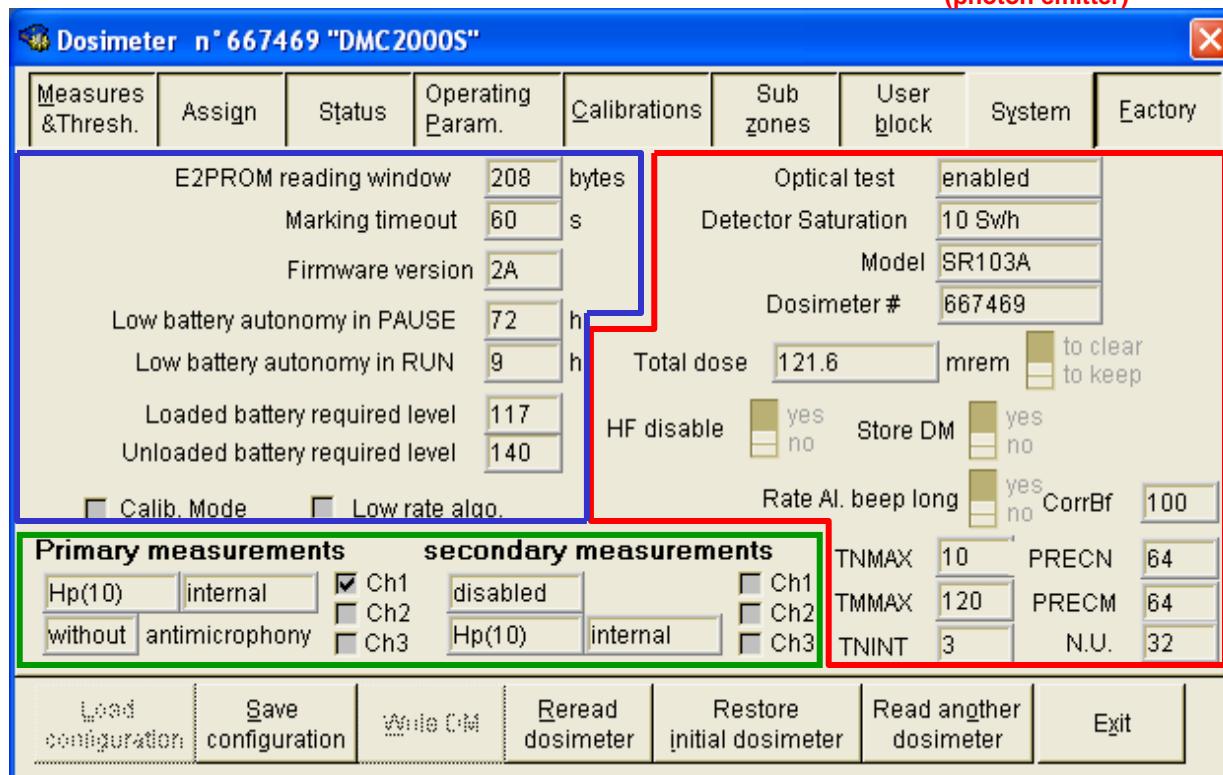
Model: a code that defines an entire set of options and settings requested by client for delivery of the dosimeter

Total Dose: the total radiation dose measured by the dosimeter since first initialization

Store Dosimeter: Permits storage of the dosimeter in state of minimal power consumption for extended periods without use. Can be recovered via magnet.

HF Disable: Permits storage of the dosimeter in state of minimal power consumption for extended periods without use. Can be recovered via magnet

Dose Rate Algo: Factory parameters used in processing the dose rate algorithm. Text labels and values are dependent on firmware version, dosimeter and type. Factory parameter – do not modify



Primary Measurements: Hp-10/Hp-07 – Types of measurements performed by detector. Internal: measurement from internal detector; External: measurement from detector external to dosimeter.

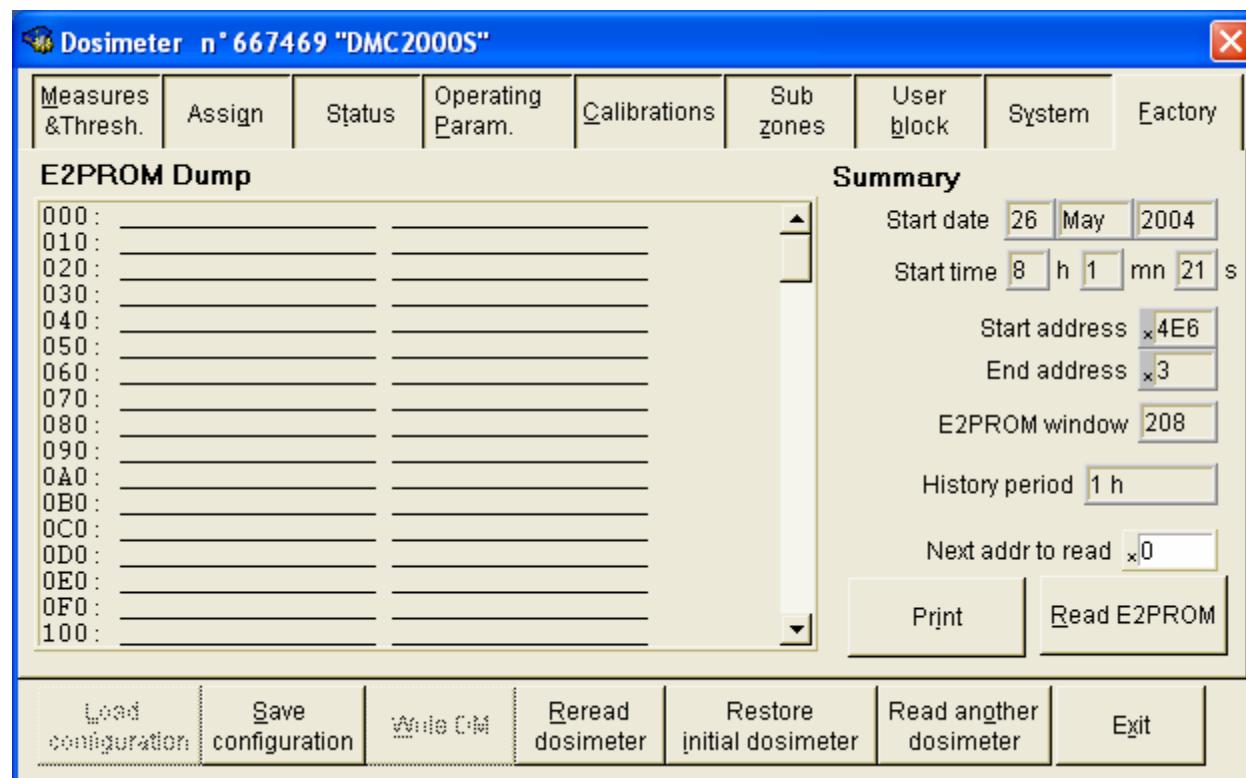
Secondary Measurements: Hp-07 for DMC-2000 XB. Can only be accessed using a Hands-Free reader.

Rate Alarm – Beep Long: Permits user to change the rate alarm audible pattern

DOSIMASS Configuration Windows

FACTORY TAB

The Factory Configuration window is normally used by personnel training in repair, troubleshooting and reconfiguration of the DMC-2000. Raw histogram data can also be obtained from this screen. MGPI recommends that these parameters and functions are not used by personnel unless under the guidance of MGPI representatives.



DOSIMASS Configuration - cont.

SAVING CONFIGURATION FILES

DOSIMASS permits a user to "Save" Dosimeter configurations. This feature is especially useful for configuring a few, or many Dosimeters using the same Dosimeter parameters. An archive of saved configuration file can be used by both Single and Multiple Configuration features in DOSIMASS.



To **SAVE** a specific Dosimeter configuration to file:

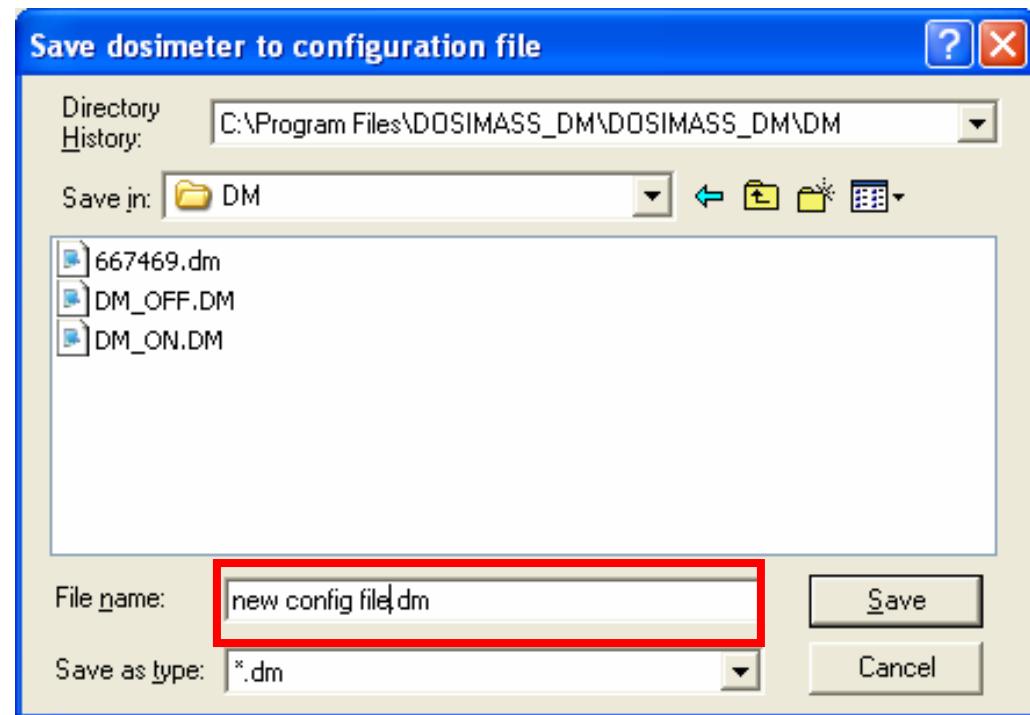
- In the Single Configuration mode, set the desired Dosimeter parameters in each of the Configuration Tabs.
- Click the Save Configuration button...

DOSIMASS Configuration - cont.

SAVING CONFIGURATION FILES – cont.

The following directory window will appear. In the "Save Dosimeter to Configuration File" directory, the user can name the configuration file and establish a specific directory location for the saved file.

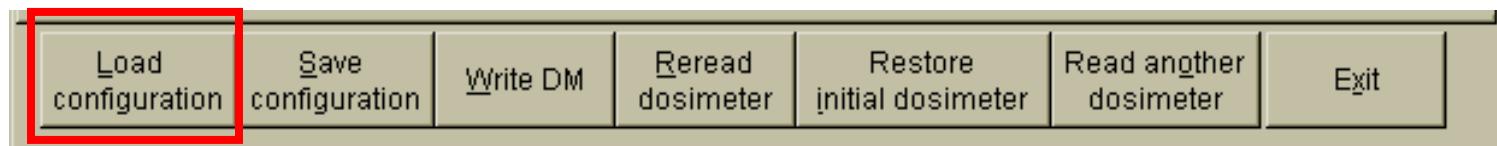
- Specify a directory folder (use existing DOSIMASS folders or create a new folder)
- Type in the new configuration file name
- Click Save



DOSIMASS Configuration - cont.

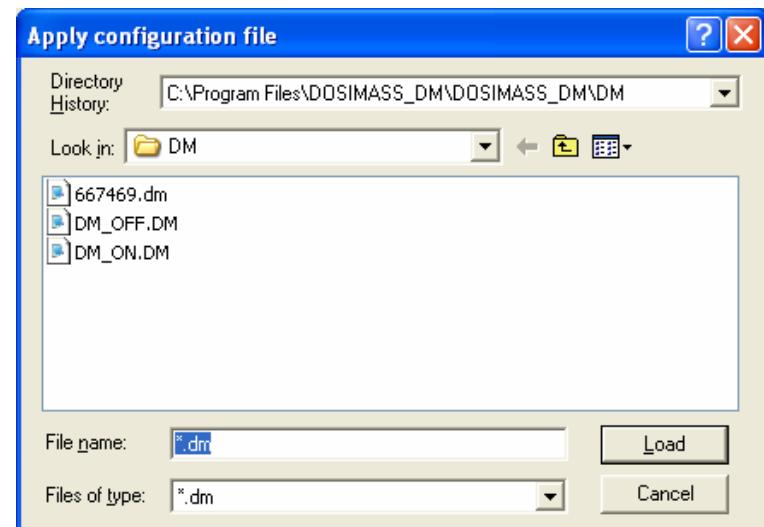
LOADING CONFIGURATION FILES

DOSIMASS permits a user to "Load" Dosimeter configurations. This feature is especially useful for configuring a few, or many Dosimeters using the same Dosimeter parameters. An archive of saved configuration files can be used by both Single and Multiple Configuration features in DOSIMASS.



To **LOAD** a specific Dosimeter configuration to DOSIMASS:

- Click the Load Configuration button
- Select a configuration file
- Click Load

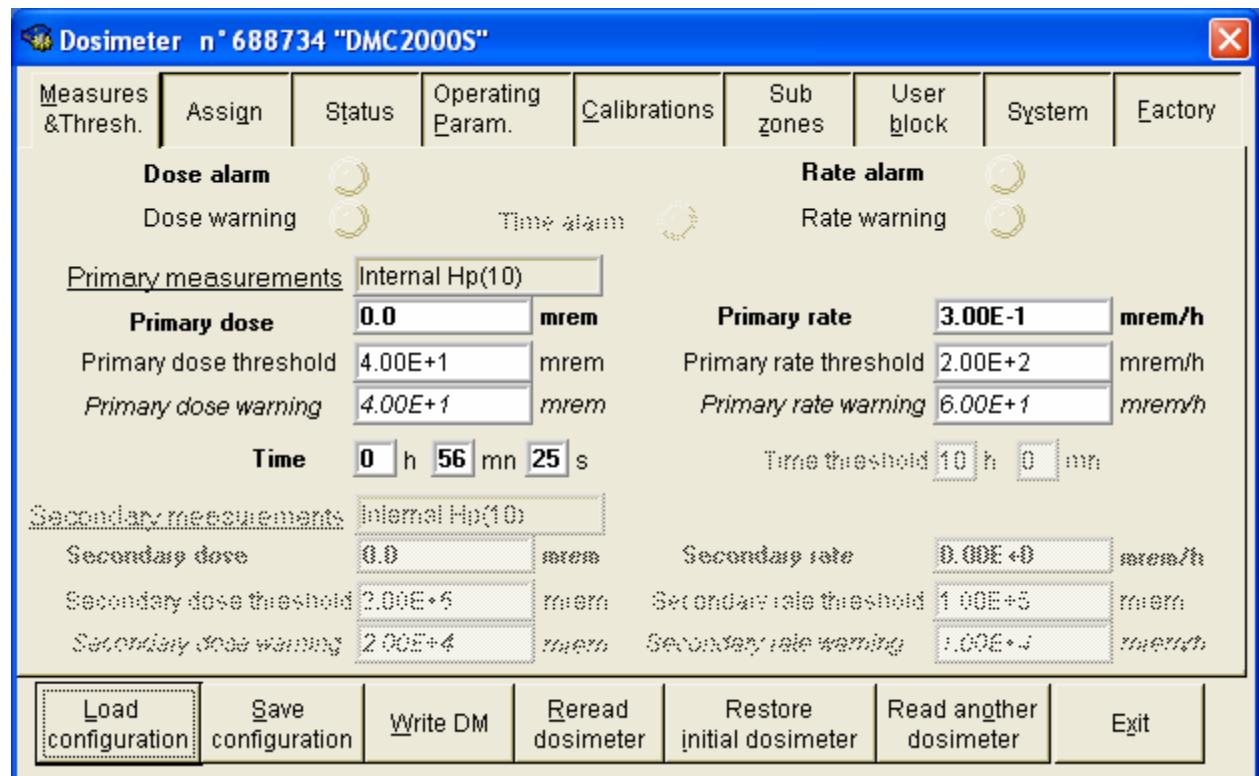


DOSIMASS Configuration - cont.

LOADING CONFIGURATION FILES – cont.

DOSIMASS will load the configuration (as it was “saved”) into the Tabs fields.

After verifying the parameters, click the **Write DM** button to configure the dosimeter.



DOSIMASS Configuration - cont.

MULTIPLE CONFIGURATIONS

The Multiple Configuration feature permits the user to configure more than one Dosimeter to similar parameters in one process. With this feature, multiple dosimeters can be programmed using archived configuration files in one step rather than manually modifying parameters using the Single Configuration mode.

The Multiple Configuration feature provides a rapid process for applying the same parameters for more than one dosimeter. In some larger facilities, an Automated Calibration device can configure a large population of electronic dosimeters without intervention over long time periods. The Multiple Configuration process aides in the configuration of smaller inventories in a simple desktop application.

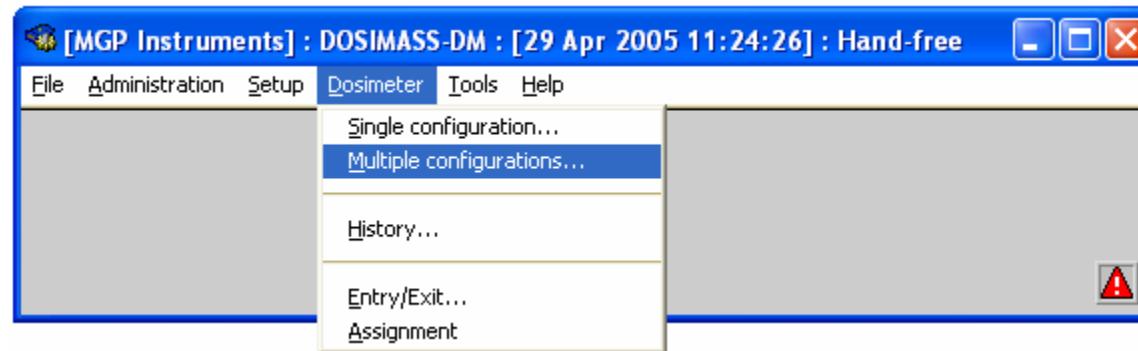
The next section will describe the process for using the Multiple Configuration feature.

Note: The Multiple Configuration can only be used with LDM-2000, 210-220-230 Hands-Free Readers.



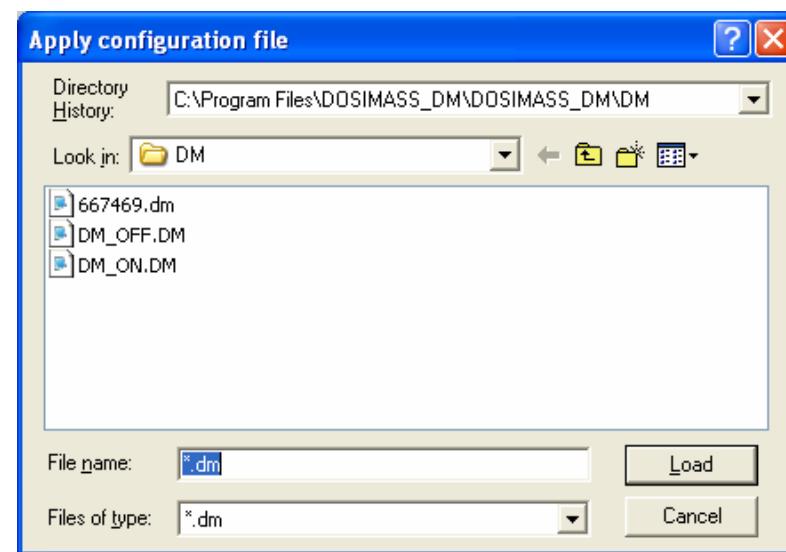
DOSIMASS Configuration - cont.

DOSIMETER: MULTIPLE CONFIGURATION



In order to use this feature, a configuration file must be prepared in advance.

To prepare a configuration file, refer to the **Command Button Bar** section

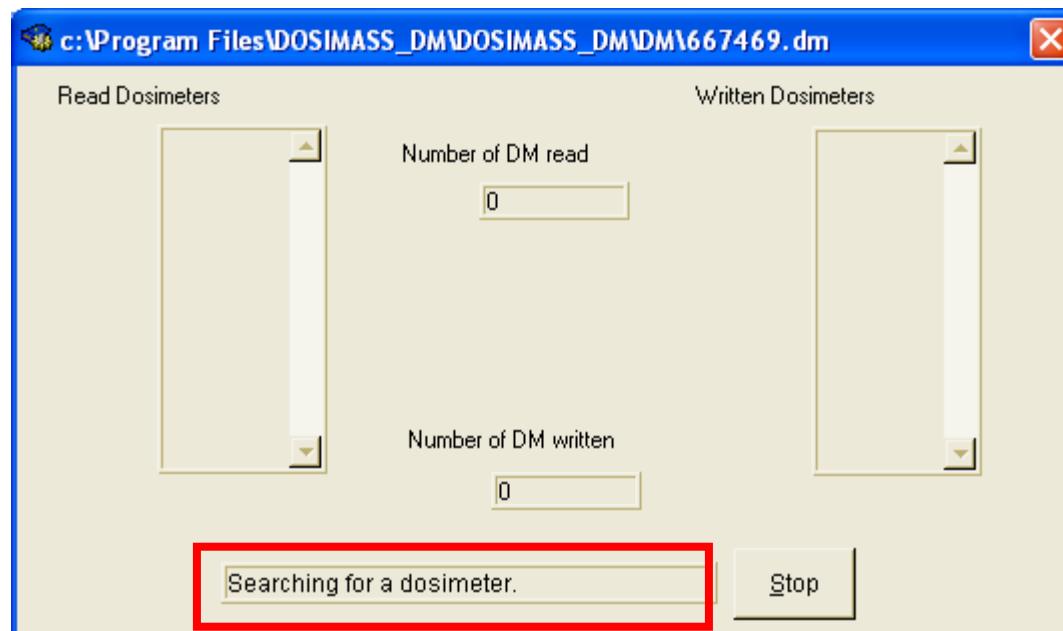


The **MULTIPLE CONFIGURATION** feature provides the user display a method to program multiple dosimeters to a specific configuration

DOSIMASS Configuration - cont.

DOSIMETER: MULTIPLE CONFIGURATION – cont.

After selecting a configuration file, the Multiple Configuration window will display...

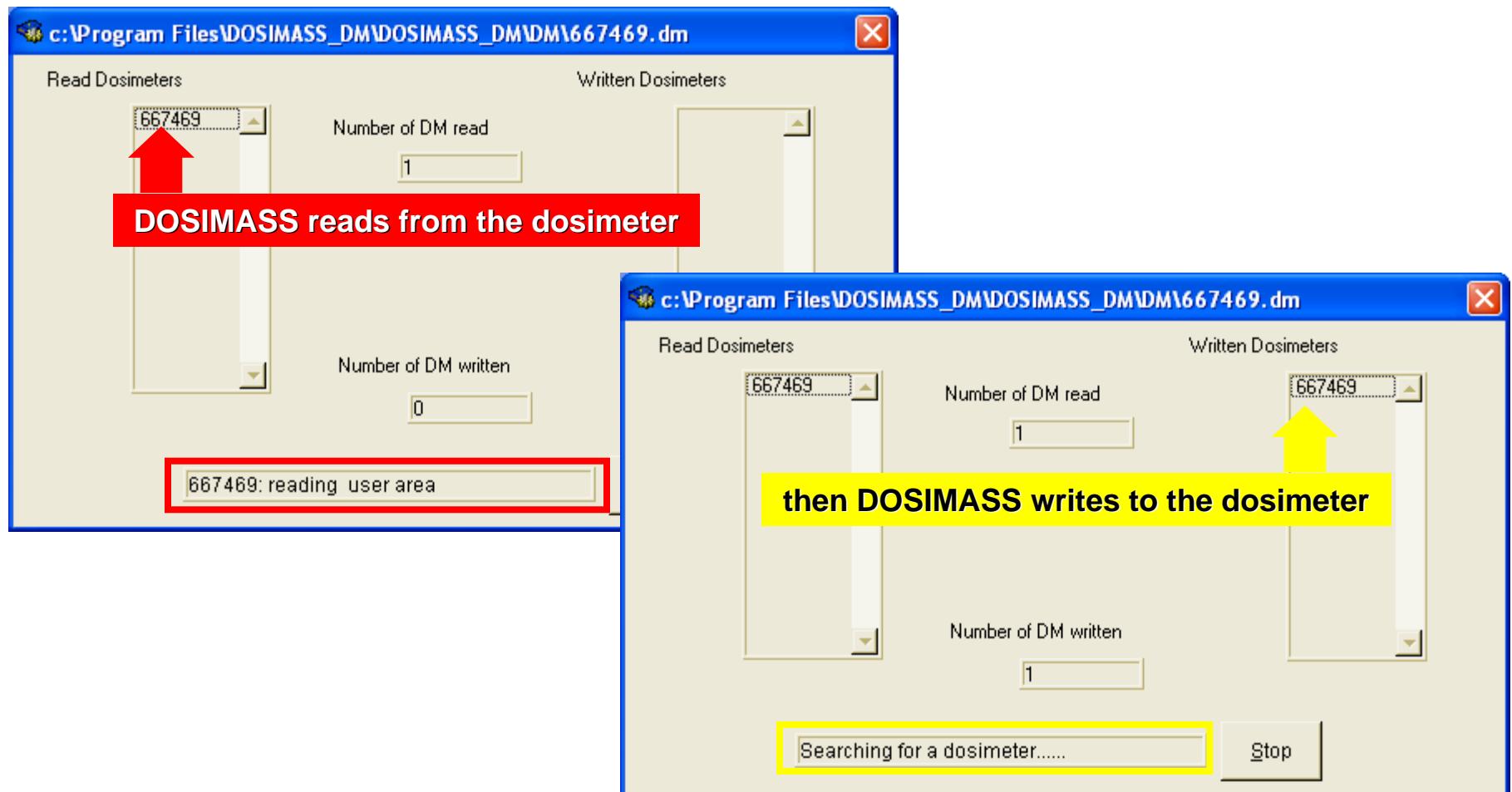


Note: The Multiple Configuration feature can only be used with an LDM-2000, 210, 220 and 230 Hands-Free Readers.

Dosimass will search for a dosimeter to begin the multiple configuration process

DOSIMASS Configuration - cont.

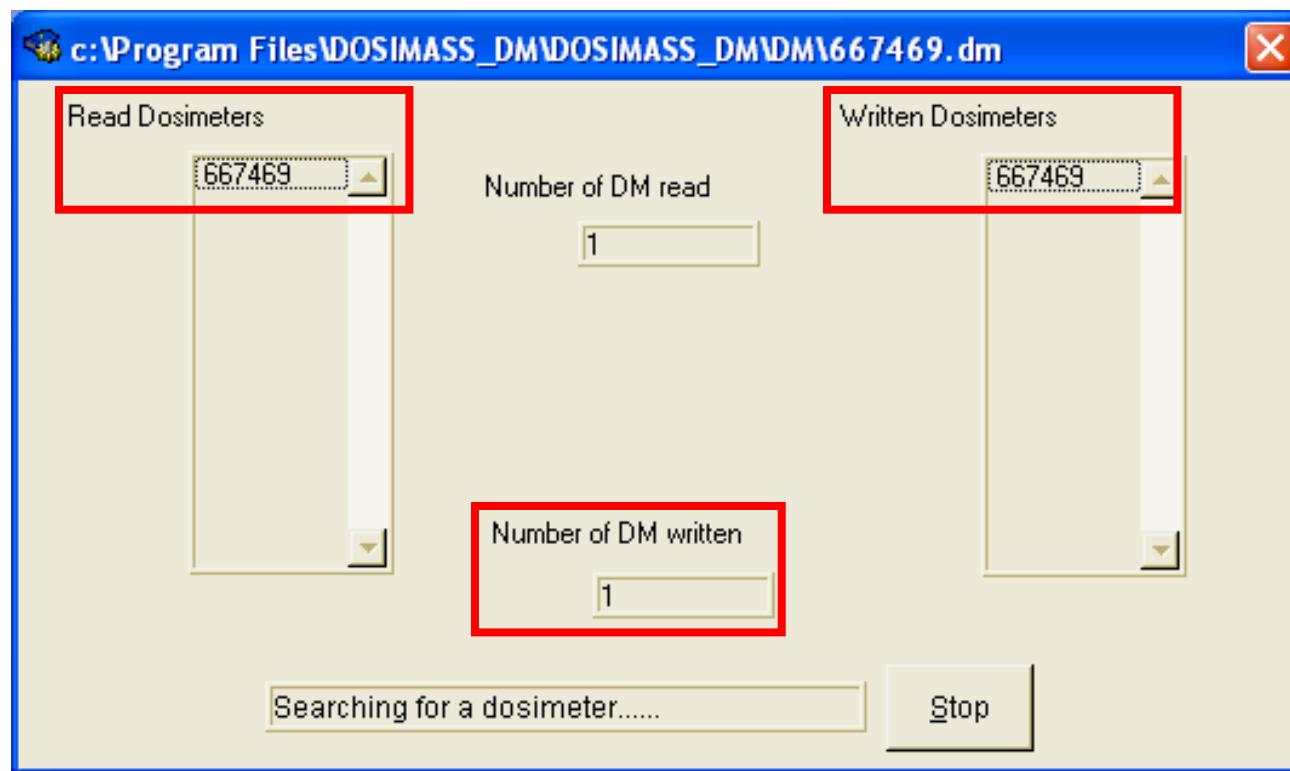
DOSIMETER: MULTIPLE CONFIGURATION – cont.



DOSIMASS Configuration - cont.

DOSIMETER: MULTIPLE CONFIGURATION – cont.

A configuration is complete for each dosimeter when the Serial Number appears in both the **READ** and **WRITTEN** dosimeter columns. DOSIMASS displays each serial number and the **total number of dosimeters written** (configured) during this process.



Dosimeter Assignment

ASSIGNMENT MENU OPTION

This section provides the user with a review for assigning dosimeters to personnel. Dosimeter assignment is desirable when dosimeters are issued on a permanent or semi-permanent basis; or designated for use with specific personnel, teams or tasks.

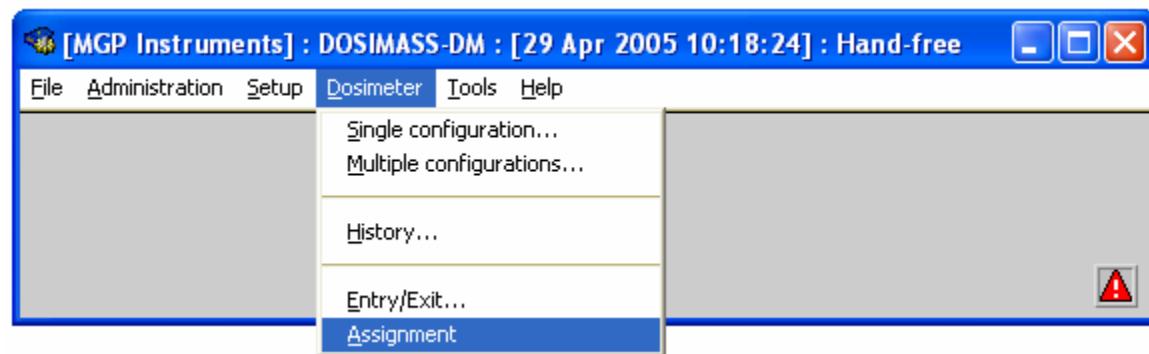
Assignment of dosimeters through the menu option is a semi-automatic process where the user is prompted for dosimeters, enters the applicable data and writes the data to the dosimeter.

Note: Dosimeters may also be individually assigned through the Single Configuration option.

Dosimeter Assignment – cont.

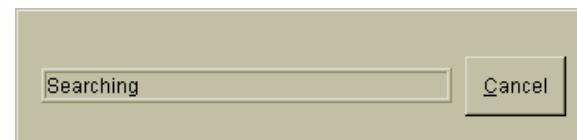
ASSIGNMENT OPTION

1. From the DOSIMASS Menu bar, click Dosimeter, **Assignment...**

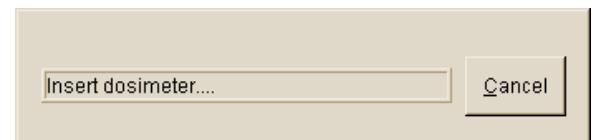


2. A window will appear requesting insertion of, or, searching for a dosimeter (depending upon reader type used).

Following completion of the read sequence, the Assignment window appears...



Display for Hands-Free Reader
(LDM-2000, 210 or 220)



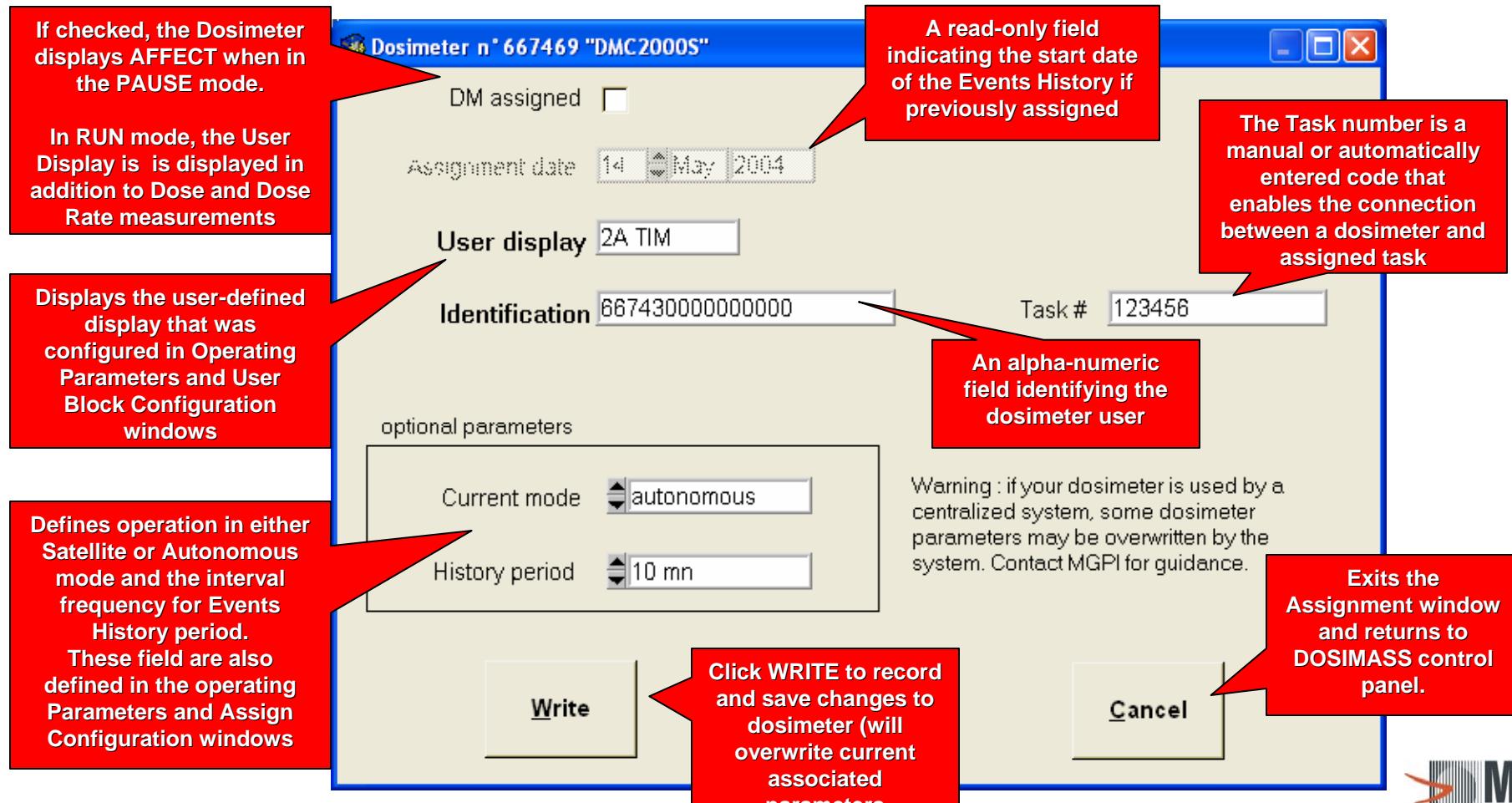
Display for LDM-101 Infra-Red Reader

Dosimeter Assignment – cont.

ASSIGNMENT OPTION – cont.

The Assignment window displaying the dosimeter parameters following the read sequence.

The User can modify the fields identified with a WHITE background.

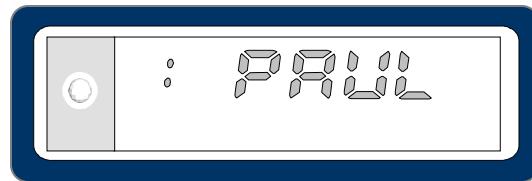


Dosimeter Assignment – cont.

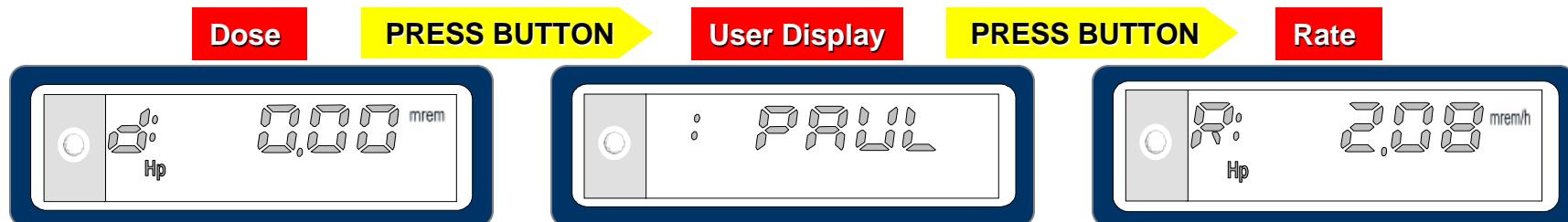
ASSIGNMENT OPTION – cont.

When a dosimeter is “assigned”, the display will change...

In the PAUSE mode, the specific User defined display will appear on the dosimeter in place of the word PAUSE. This user defined display can be a name, cal due date, or any 6 character field.



In the RUN mode, the specific user –defined display will appear when the button is pressed (toggled) to view dose and dose rate measurements. For example, when toggled, the Dose measurement will change to the User display, then the Dose Rate measurement as depicted below:

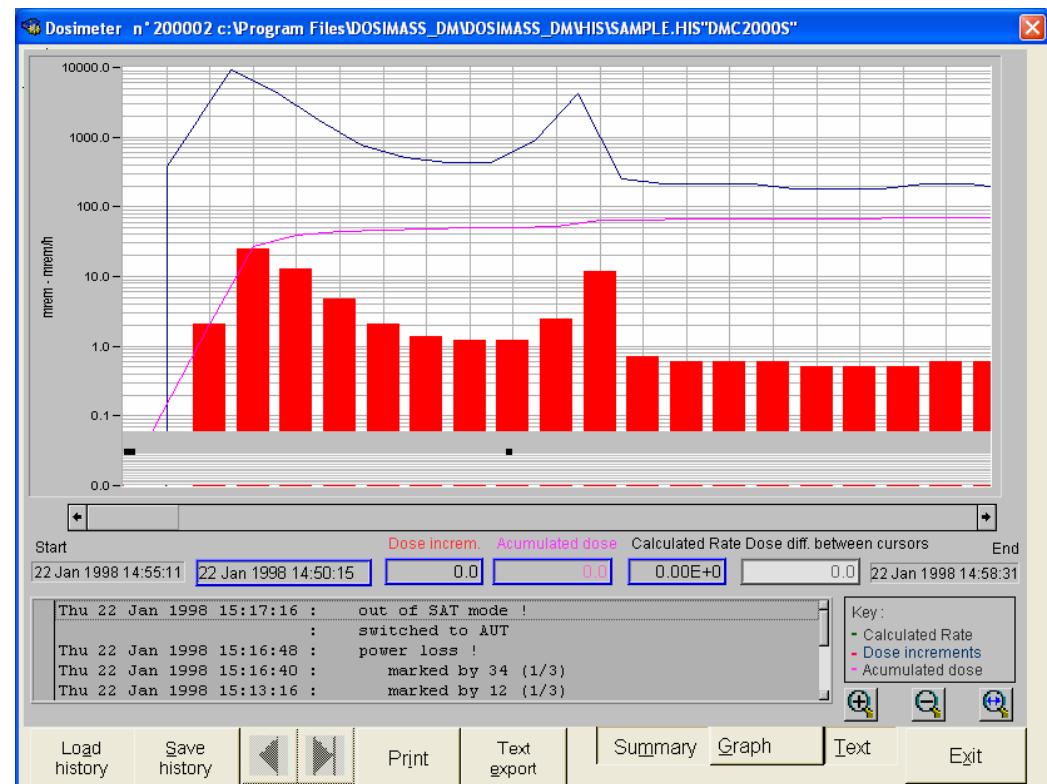


Dosimeter History

EVENTS HISTORY

The **Events History** (commonly referred to as “Histogram”) is a feature which provides access to dosimetric data stored in the dosimeters memory. The historical data is stored at a time interval specified by the user, can be saved in an archive file and view later viewed in DOSIMASS.

This section provides the user with a detailed review of the Events History feature.



Dosimeter History – cont.

EVENTS HISTORY TERMS AND DEFINITIONS:

Events History: a series of chronological elements that are time and date stamped and stored in a dosimeter. These elements can be dose increments, faults, alarms, assignment changes, marking occurrences, etc.

Current Events History: When initiated, all the events that occur from that moment are time & date stamped and recorded in the dosimeter

Number of Events History: Several Events History can be recorded into the dosimeter memory. When depleted, the oldest Events History is replaced by the newest (current) Events History.

Events History Period: the constant interval of time at the end of which the increase in dose equivalent and events are recorded. Intervals: 10 sec, 1 min, 10 min, 1 hour, 24 hours.

Start-up of an Events History: generally takes place at the time of dosimeter activation (RUN)

Closure of an Events History: is conducted at the next activation of the dosimeter or Start New Events History option.

Events History Saturation: if the stored data fills the memory, it cannot be recovered. A 'saturation' is recorded in memory.

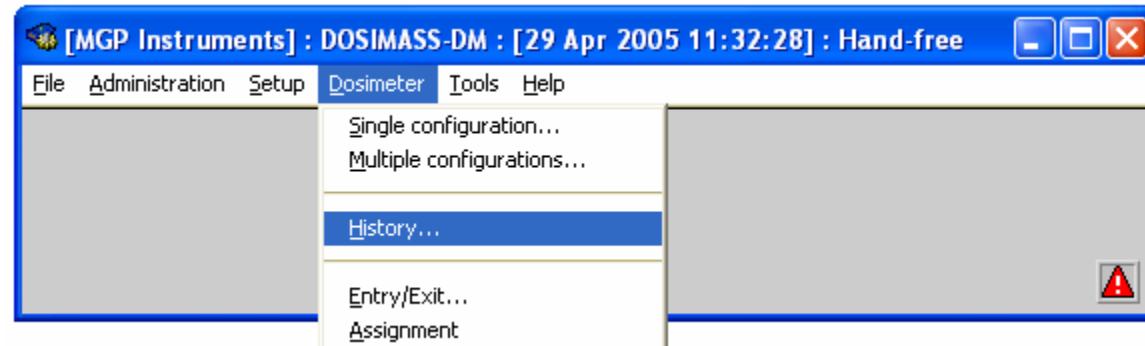
Dose Increment: an increase in the dose equivalent during an interval of time defined by the Events History period (increments of 0.1 mrem or more)



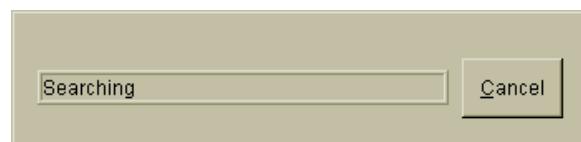
Dosimeter History – cont.

ACCESS TO THE EVENTS HISTORY

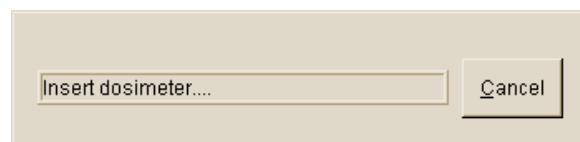
1. To access the Events History feature, click Dosimeter, **HISTORY...**



2. A window will appear requesting insertion of, or, searching for a dosimeter (depending upon reader type used)...



or



Display for Hands-Free Reader
(LDM-2000, 210 or 220)

Display for LDM-101 Infra-Red Reader

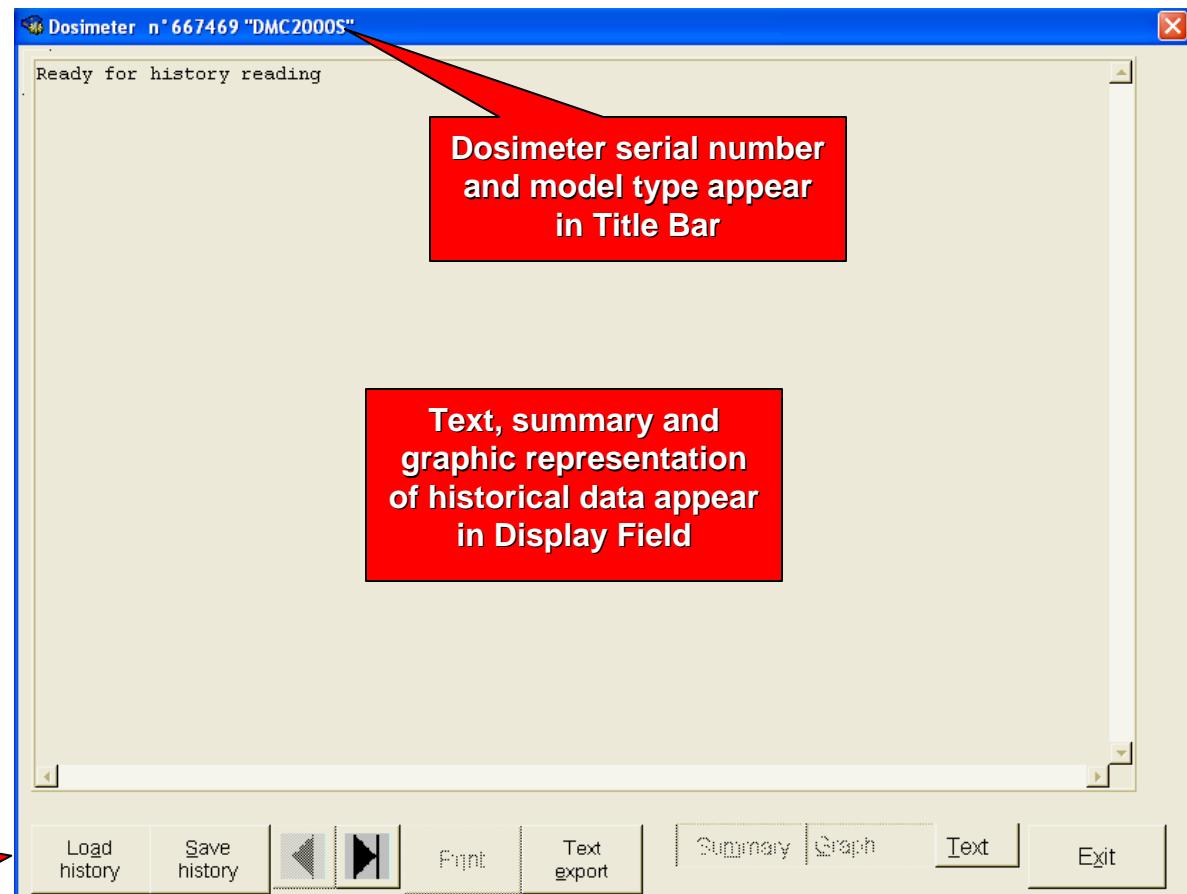
Dosimeter History – cont.

ACCESS TO THE EVENTS HISTORY – cont.

Following the read sequence, the Events History window opens.

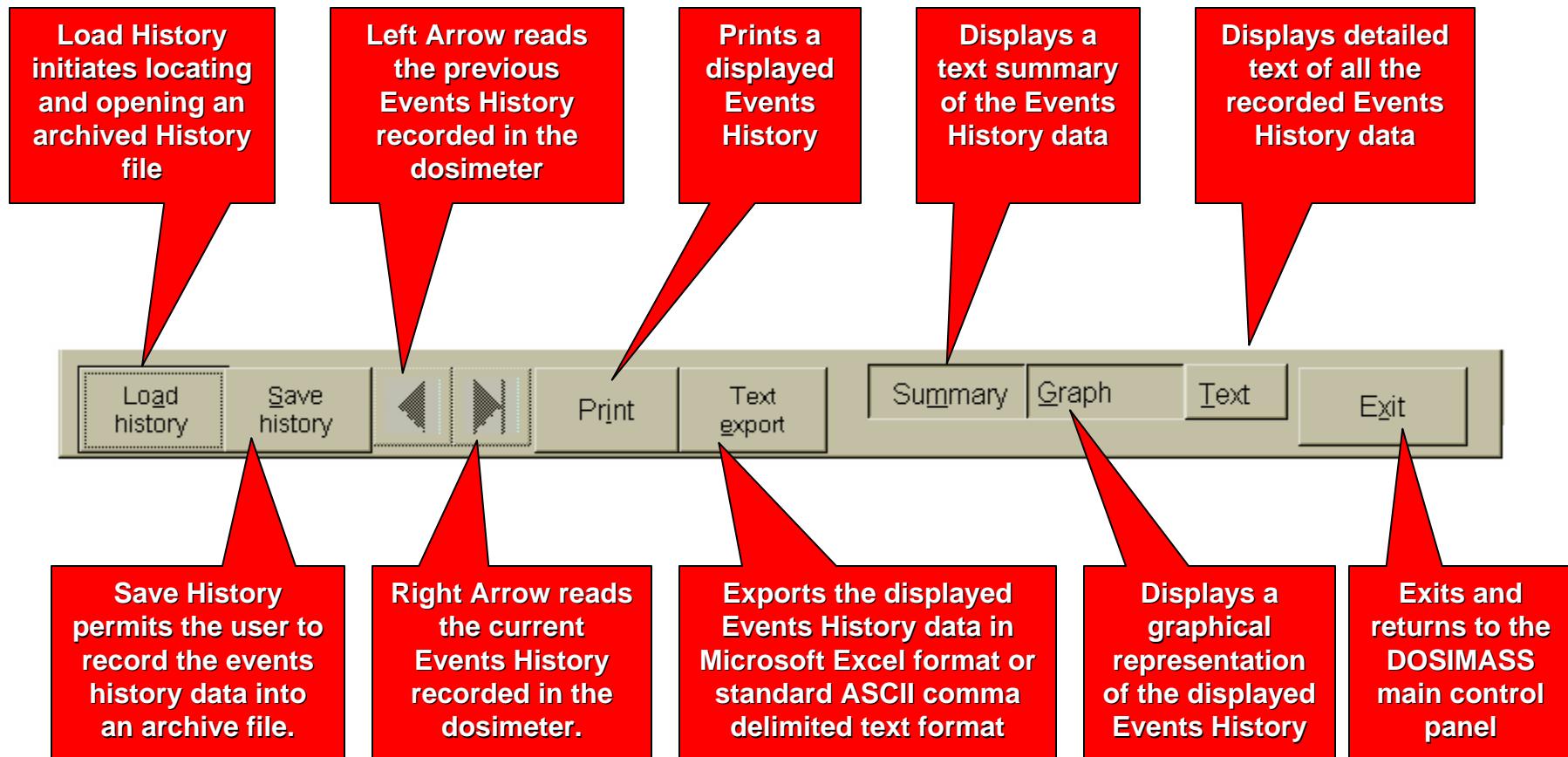
The Events History window consists of the following elements:

- Title Bar
- Display Field
- Function Button Bar



Dosimeter History – cont.

EVENTS HISTORY FUNCTION BUTTON BAR



Dosimeter History – cont.

READING AN EVENTS HISTORY

There are two (2) basic method to access an **Events History** from a dosimeter:

1. Directly from the dosimeter
2. Loading and display and archived Events History file

To load an **Events History file**:



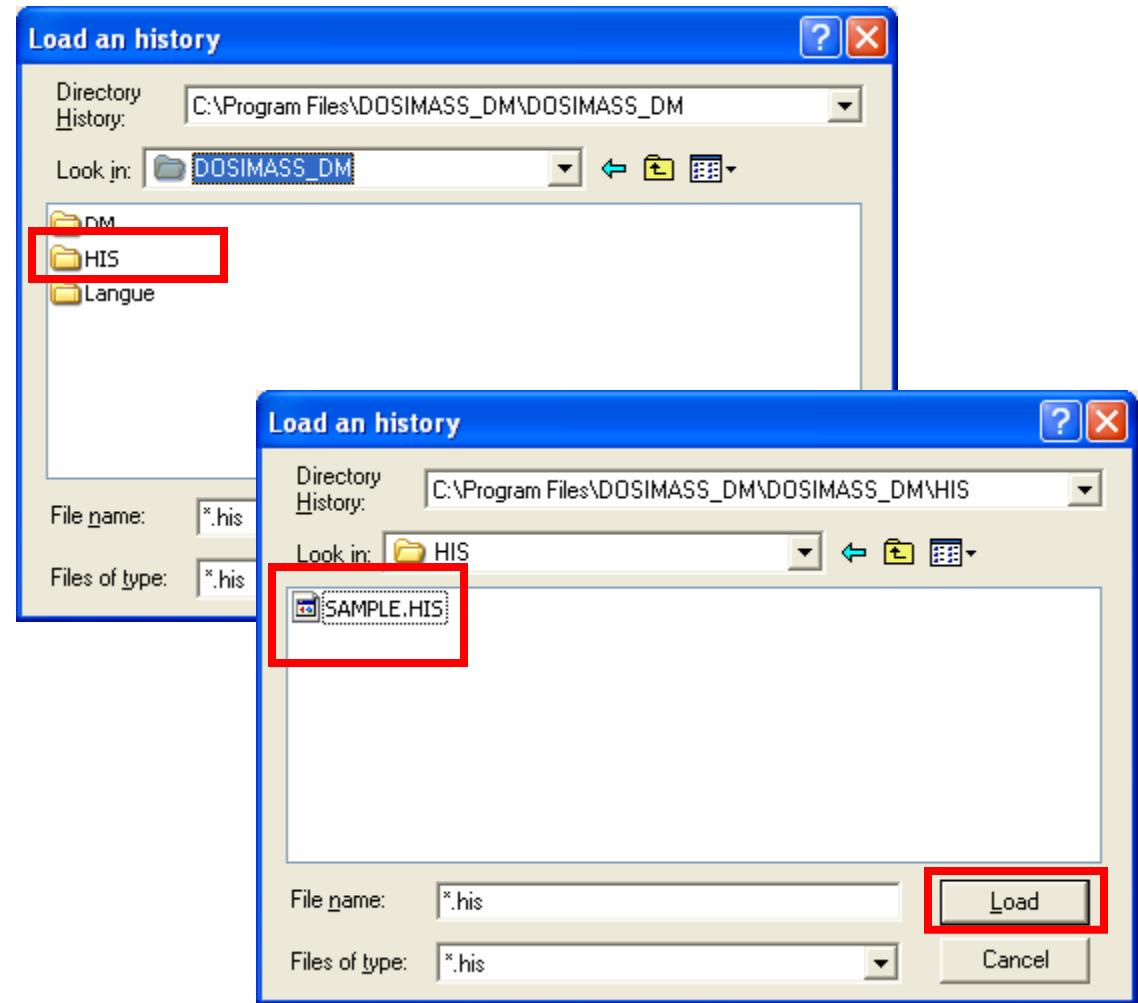
Click the **Load History** key...

Dosimeter History – cont.

READING AN EVENTS HISTORY – cont.

A File Directory window will appear....

3. Locate the folder containing the .his files (typically stored in the “his” folder).
4. Double Click the folder to display the associated .his files.
5. Select the desired history file, and click **LOAD** (or press the Enter key (on keyboard)



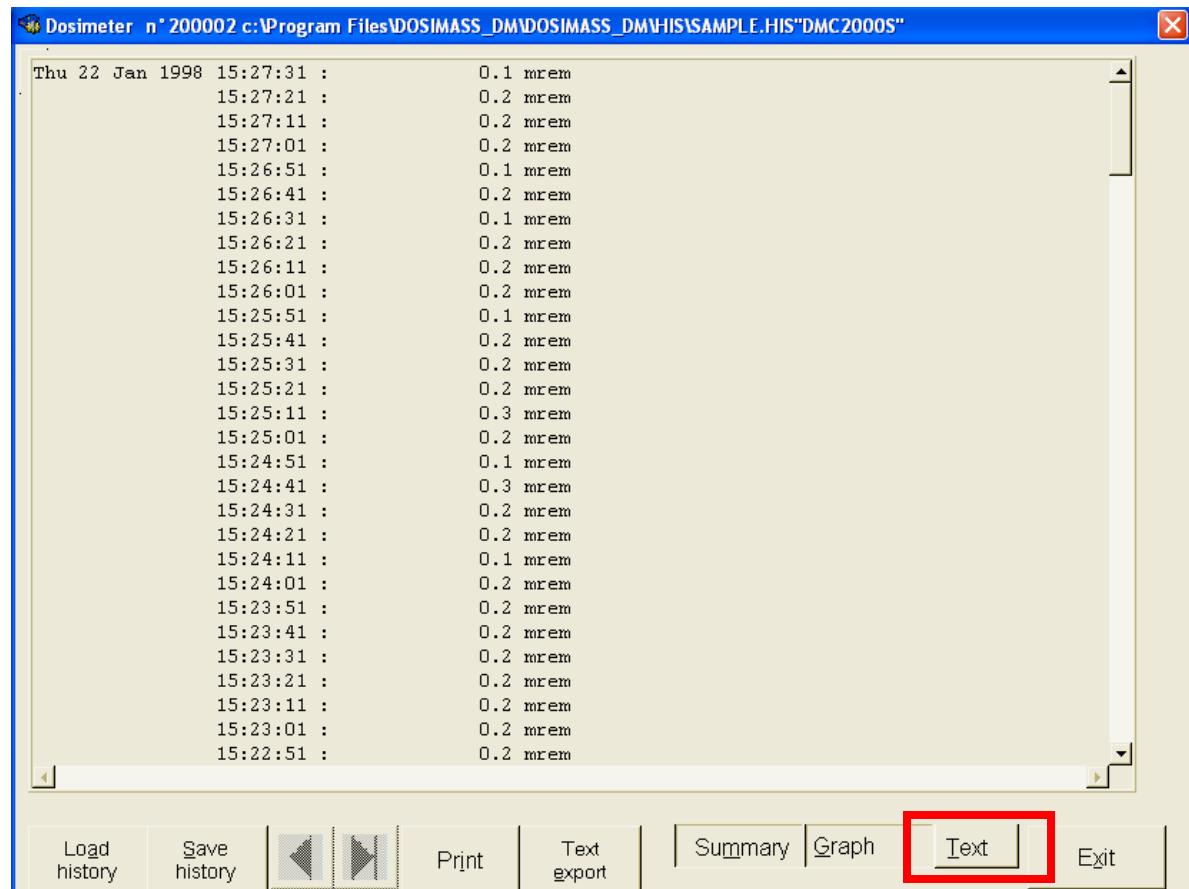
Dosimeter History – cont.

DISPLAY OF EVENTS HISTORY - TEXT

DOSIMASS will read the selected history file and display the corresponding events (in detailed text format).

Events are displayed in order of occurrence and time stamped. The history periods (interval) are user-configurable in the Assign Configuration Window (hyperlink)

For a summary of a history record, click the **SUMMARY** button...

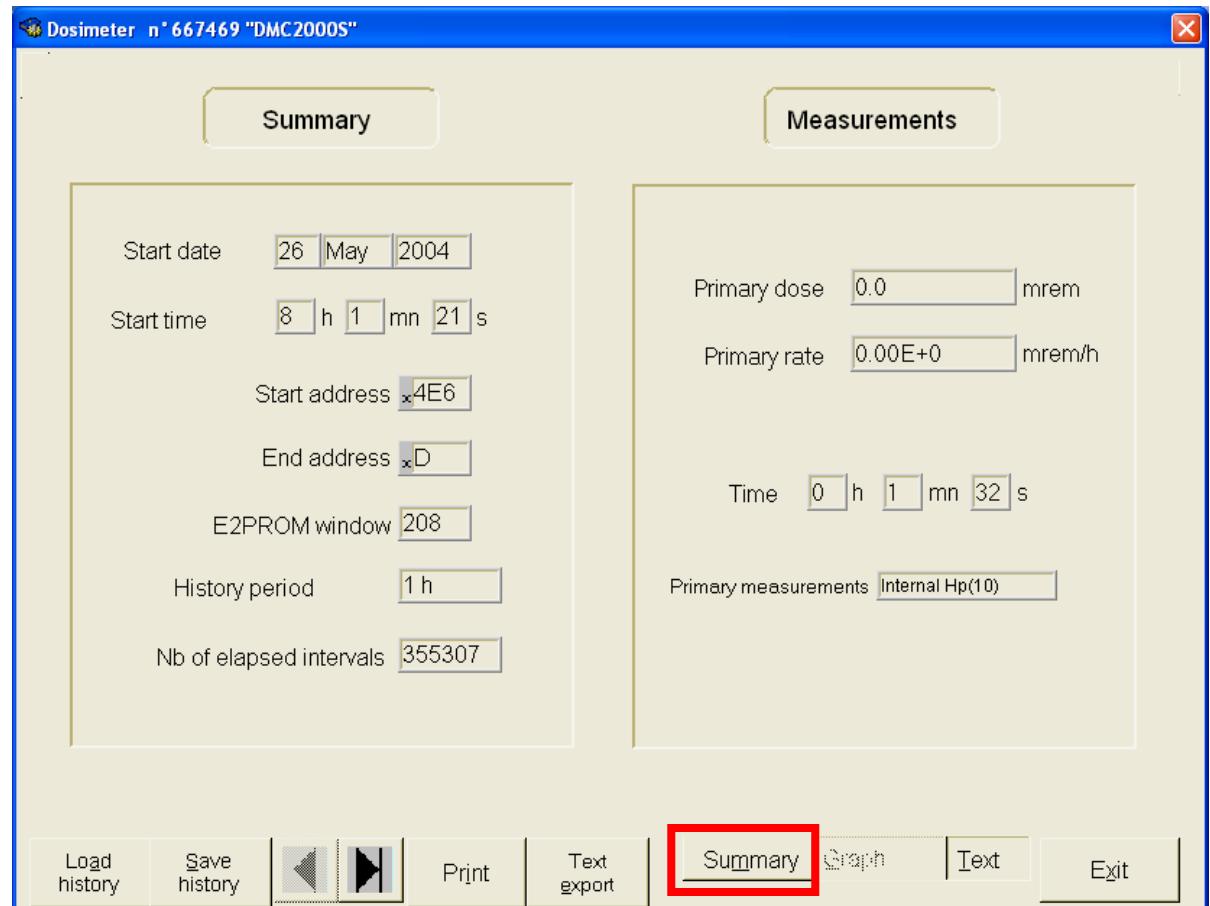


Dosimeter History – cont.

DISPLAY OF EVENTS HISTORY - SUMMARY

DOSIMASS will display specific information relative to the dosimeter parameter settings (as displayed in the **Factory Configuration Window** hyperlink)

For a graphical display of a history record, click the **GRAPH** button...

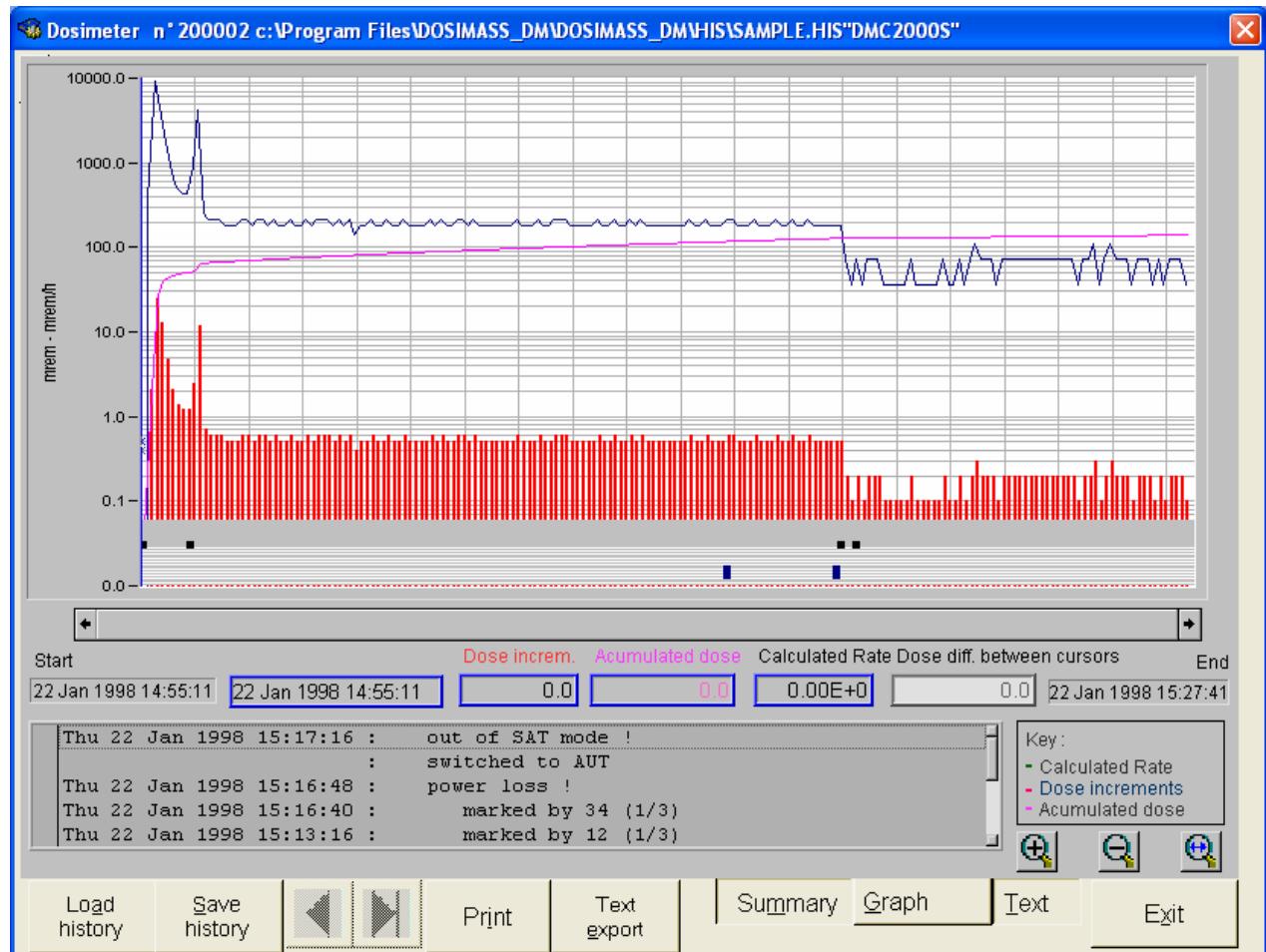


Dosimeter History – cont.

DISPLAY OF EVENTS HISTORY – GRAPHIC DISPLAY

DOSIMASS will display the events history data in graphic format.

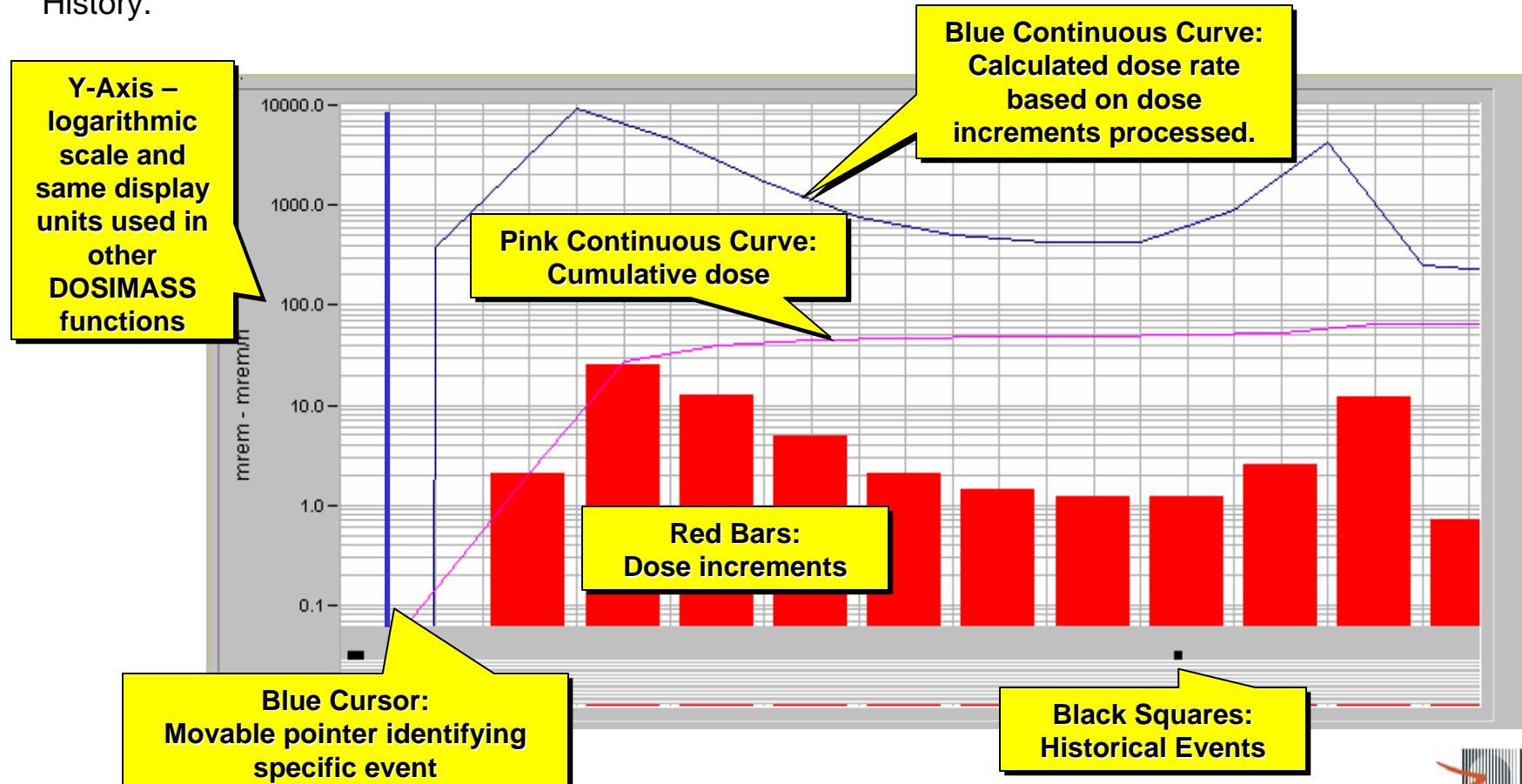
The graph feature provides user tools for performing detailed analysis of the recorded events.



Dosimeter History – cont.

DISPLAY OF EVENTS HISTORY – GRAPHIC DISPLAY – cont.

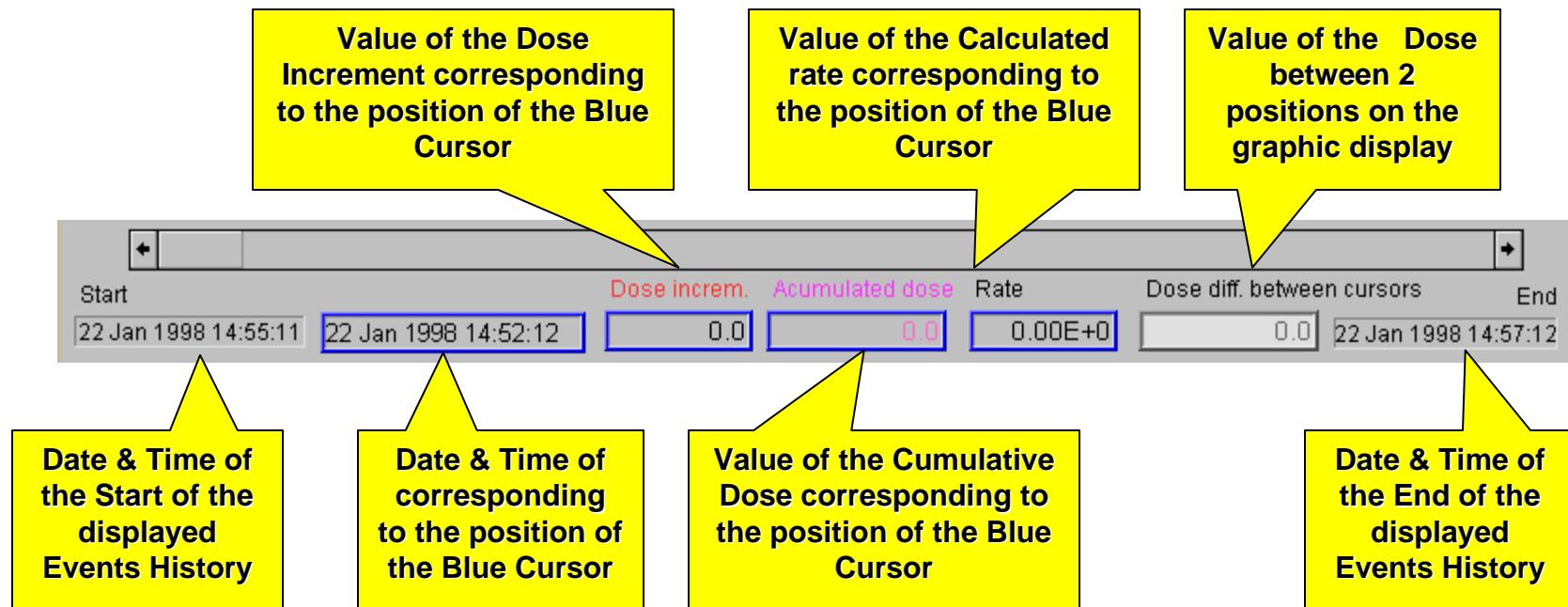
DISPLAY AREA: a portion of the history window reserved for the graphic representation of the Events History.



Dosimeter History – cont.

DISPLAY OF EVENTS HISTORY – GRAPHIC DISPLAY – cont.

VALUES AREA: a portion of the history window reserved for display of corresponding historical numeric data.

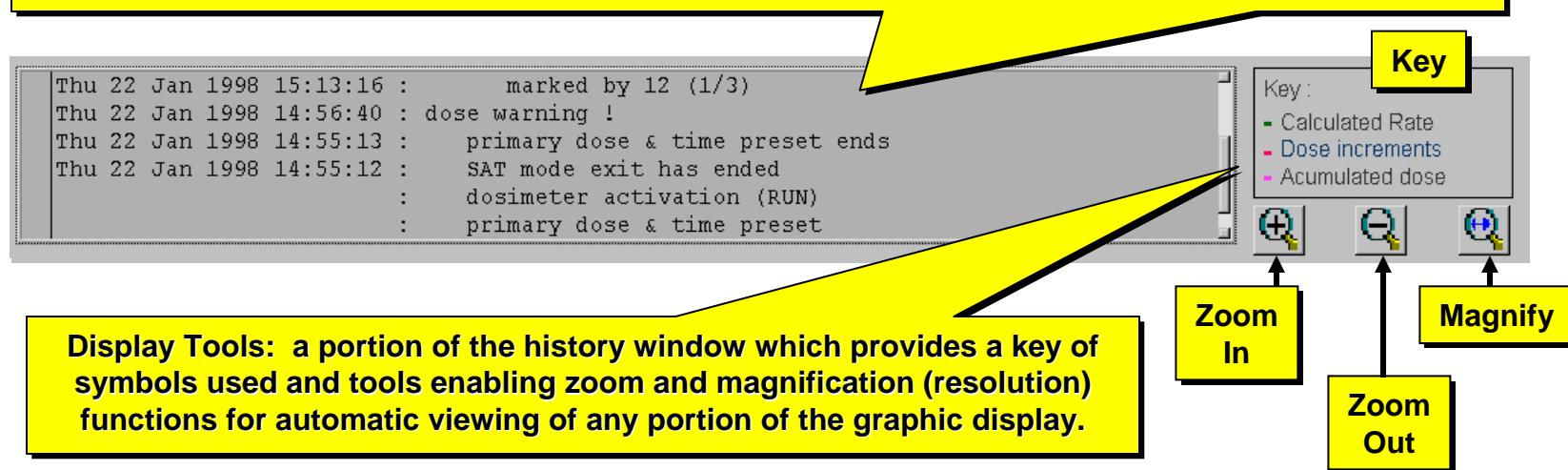


Dosimeter History – cont.

DISPLAY OF EVENTS HISTORY – GRAPHIC DISPLAY – cont.

HISTOGRAM EVENTS: a portion of the history window reserved for the display of the Date& Time stamped historical events, corresponding to the Black Squares in the display area.

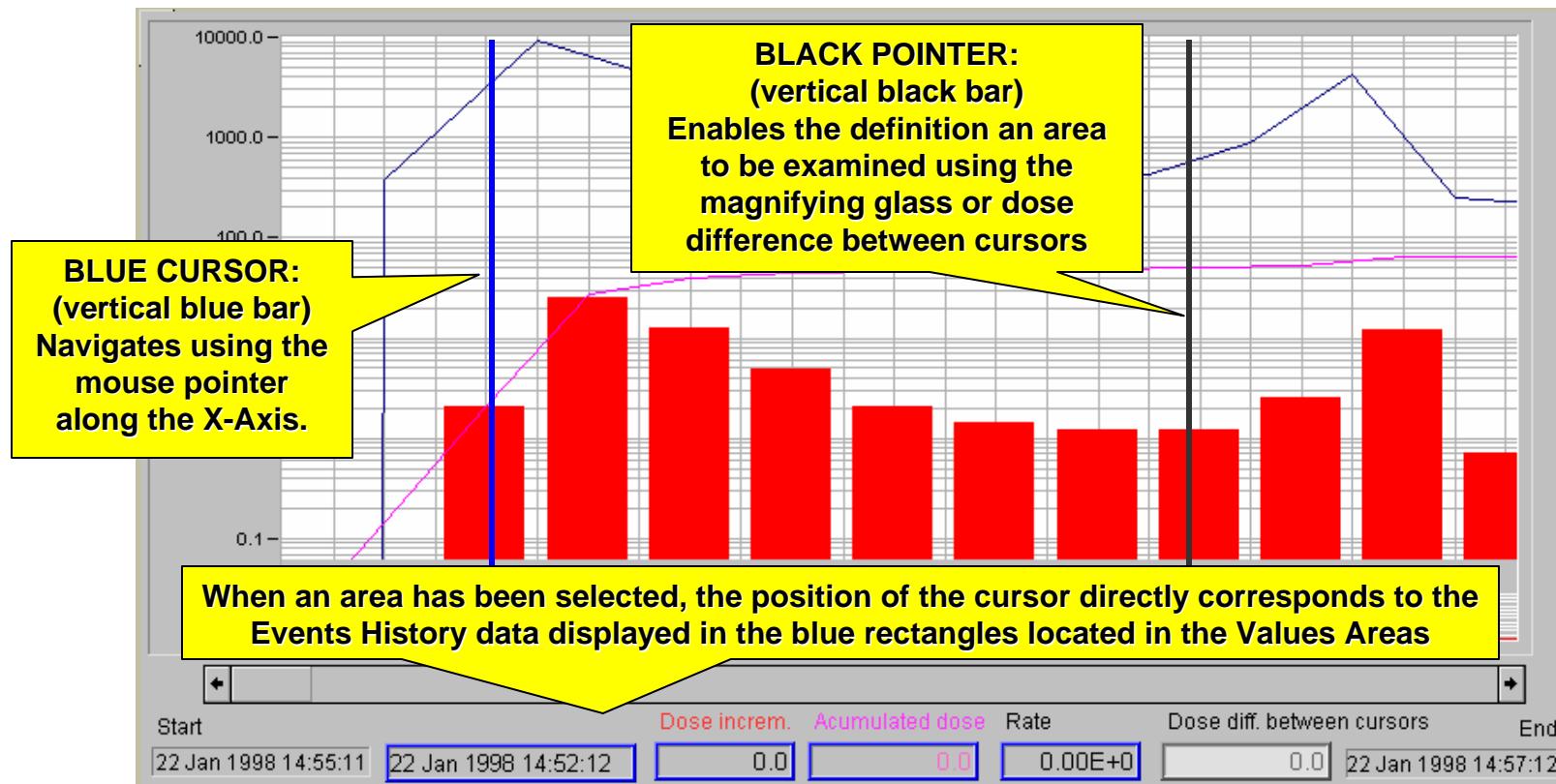
This data is present in Text format similar to the Text display window of the Events History



Dosimeter History – cont.

DISPLAY OF EVENTS HISTORY – GRAPHIC DISPLAY – cont.

NAVIGATION OF CURSOR & POINTER



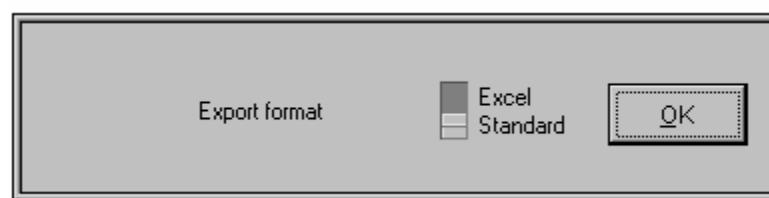
Dosimeter History – cont.

DISPLAY OF EVENTS HISTORY – EXPORTING A HISTORY FILE

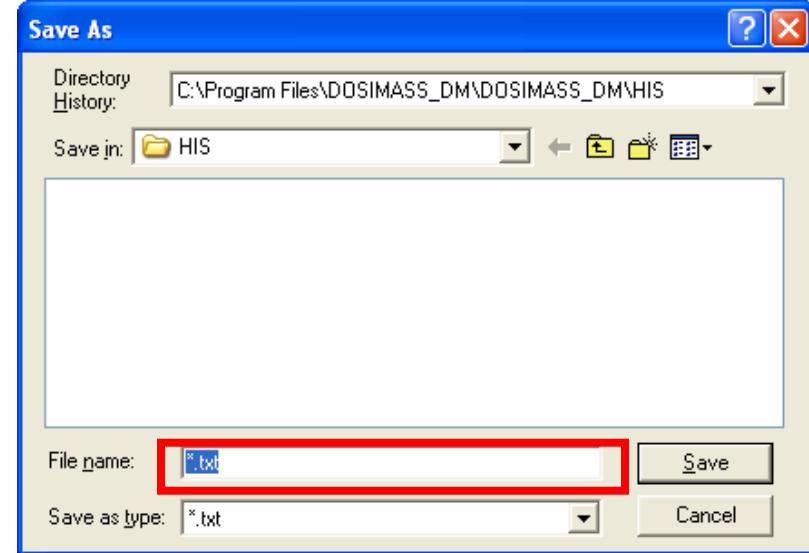
1. Click the **Text Export** button



2. A window appears offering two (2) text export formats:
 - Microsoft Excel (semicolon delimited)
 - Text



3. A directory window appears prompting the user for a File Name and directory location for exported file.

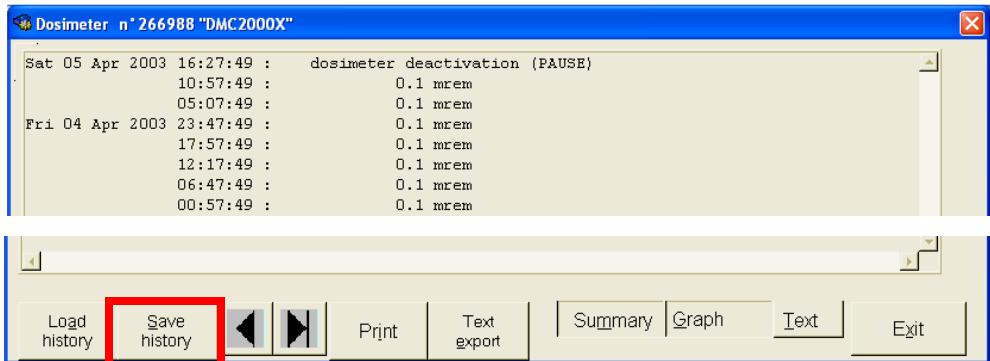


Dosimeter History – cont.

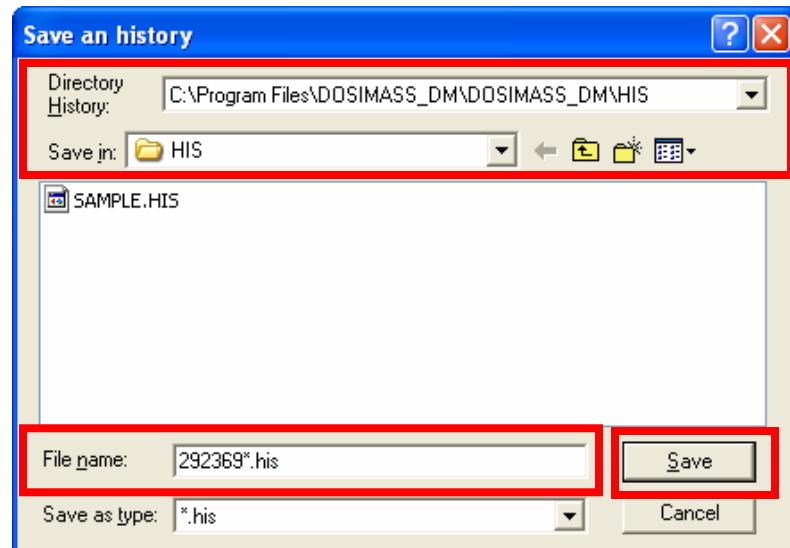
SAVE AN EVENTS HISTORY FILE

Events Histories can be archived (saved) as .HIS files for future retrieval and analysis.

1. Click the **SAVE HISTORY** button



2. A window appears prompting the user to provide a name for the history file and file directory location



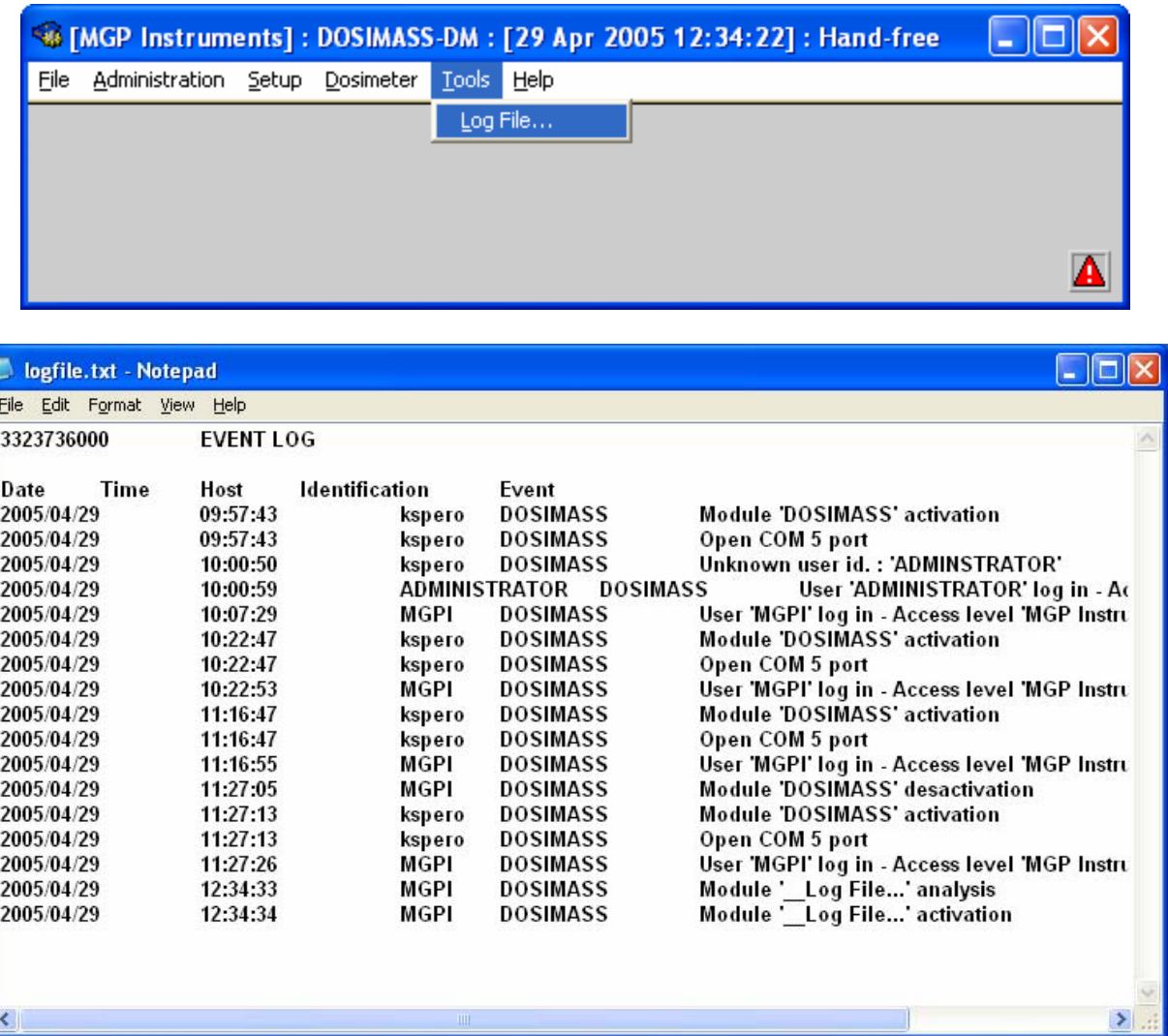
3. Click **SAVE** to complete the process.

Tools

LOG FILE

The Log File features is a basic event log, which records access to the DOSIMASS program.

The event log provides a date and time of access, user identification and any function.



The screenshot shows the DOSIMASS-DM software interface. The title bar reads "[MGP Instruments] : DOSIMASS-DM : [29 Apr 2005 12:34:22] : Hand-free". The menu bar includes File, Administration, Setup, Dosimeter, Tools, and Help. The Tools menu is open, and the "Log File..." option is highlighted. A red warning icon is visible in the bottom right corner of the software window. Below the software window, a Notepad window titled "logfile.txt" is open, displaying the event log data.

EVENT LOG				
Date	Time	Host	Identification	Event
2005/04/29	09:57:43	kspero	DOSIMASS	Module 'DOSIMASS' activation
2005/04/29	09:57:43	kspero	DOSIMASS	Open COM 5 port
2005/04/29	10:00:50	kspero	DOSIMASS	Unknown user id. : 'ADMINISTRATOR'
2005/04/29	10:00:59	ADMINISTRATOR	DOSIMASS	User 'ADMINISTRATOR' log in - Access level 'MGP Instrument'
2005/04/29	10:07:29	MGPI	DOSIMASS	User 'MGPI' log in - Access level 'MGP Instrument'
2005/04/29	10:22:47	kspero	DOSIMASS	Module 'DOSIMASS' activation
2005/04/29	10:22:47	kspero	DOSIMASS	Open COM 5 port
2005/04/29	10:22:53	MGPI	DOSIMASS	User 'MGPI' log in - Access level 'MGP Instrument'
2005/04/29	11:16:47	kspero	DOSIMASS	Module 'DOSIMASS' activation
2005/04/29	11:16:47	kspero	DOSIMASS	Open COM 5 port
2005/04/29	11:16:55	MGPI	DOSIMASS	User 'MGPI' log in - Access level 'MGP Instrument'
2005/04/29	11:27:05	MGPI	DOSIMASS	Module 'DOSIMASS' desactivation
2005/04/29	11:27:13	kspero	DOSIMASS	Module 'DOSIMASS' activation
2005/04/29	11:27:13	kspero	DOSIMASS	Open COM 5 port
2005/04/29	11:27:26	MGPI	DOSIMASS	User 'MGPI' log in - Access level 'MGP Instrument'
2005/04/29	12:34:33	MGPI	DOSIMASS	Module 'Log File...' analysis
2005/04/29	12:34:34	MGPI	DOSIMASS	Module 'Log File...' activation

Associated Lessons

- Dosimeter Fundamentals
- Reader Fundamentals